

Summary of the responses to Request for Support Message ‘ILS Signal Protection’

INTRODUCTION

EUROCONTROL Agency on request of an Air Navigation Service Provider issued on 16 of February a Safety Alert type “Request for Support Message”. This document offers to the registered users of EURCONTROL Safety Alert Service a summary of responses received by 16 of March 2009. The content of the published alert is provided below.

Request for Support Message

- **Safety Subject:** ILS Signal Protections
- **Origin:** European Air Navigation Service Provider
- **Date:** 16/02/2009
- **Distribution:** Aviation Safety Professionals

YOUR SUPPORT IS REQUIRED

- The aviation safety professionals, particularly Air Navigation Service Providers, Airport Operators and Aircraft Operators are kindly invited to share their feedback regarding the below mentioned subject.

SYNOPSIS

- The ICAO Navigation Systems Panel (NSP) produced amendment 84 to Annex 10 which includes a revision of the Guidance Material (GM) concerning ILS Critical and Sensitive Areas (CSA). This GM includes new criteria for the A380, as well as consistent material applicable to all current aircraft. The revision of the existing GM was deemed necessary due to the significant evolution in the operational environment since the material was first developed.
- The amendment was presented to states in ICAO State Letter 08/48 issued in June 2008. Due to disagreements from a number of States and international organizations, the new GM on CSA was not adopted. As the CSA revision remains necessary, the Air Navigation Commission of ICAO tasked NSP (in coordination with additional appropriate ICAO expertise) to develop:
 - a justification of the need for the proposed ILS CSA changes based on documented requirements;
 - a full assessment of the impact of the proposed changes, taking into account both the changes in CSA size and the changes in the associated CSA management procedures;
 - any modification to the original proposals that are deemed appropriate in light of a) and b) above.
- The concerns expressed in the responses to the State letter were linked to significant changes of protection requirements for operations of large aircraft with ICAO Code ‘E’, which together include all variants of the Boeing 747 and 777 and all variants of the Airbus A330 and A340. Conversely, the revised requirements were to address

concerns about specific ground movements causing ILS tolerances to be exceeded for approaching aircraft. The ground movements of concern are those near the stop end of a runway, notably when landed aircraft vacate the runway.

- These increased protection requirements, confirmed by simulations and measurements, apply not only to CAT II/III operations but also to Category I operations, since the ILS localizer critical area would now extend over a significant portion of the stop end of the runway.
- The interference effects which may be caused are dependent on the characteristics of specific ILS antenna systems, the static multipath environment, the aircraft involved and the aerodrome layout. Depending on the assessment of those local factors, the introduction of additional restrictions of large aircraft ground movements, a dynamic (aircraft dependent) management of operations near the CSA or procedures to tactically notify inbound aircraft of possible signal interruptions may be necessary.
- In parallel, the ICAO European Region Air Navigation Planning Group (EANPG) in December 2008 endorsed the European interim guidance material on the management of ILS Critical and Sensitive Areas. Although the amendment of the Annex 10 ILS CSA GM was rejected, the group agreed that in light of the current discussions about the CSA and considering the urgent need for European airports to prepare for A380 operations, this interim material on the operational management of CSA was a valuable contribution.
- A European ANSP has sought to comply with the proposed Annex 10 amendment, but noted that no locally collected occurrence data supported the need for CSA changes. Consequently, this ANSP seeks information on the intended actions of other ANSP.

ICAO REFERENCES

- ICAO State Letter AN 7/1.3.93-08/48 dated 20 June 2008 details changes to current requirements for Critical and Sensitive Areas which may affect ANSPs with responsibility for aerodromes which accept large aircraft.
- EUROPEAN INTERIM GUIDANCE MATERIAL ON MANAGEMENT OF ILS LOCALIZER CRITICAL AND SENSITIVE AREAS presents the proposed operational procedures if Amendment 84 had been adopted.

SUPPORT REQUESTED

- ANSP, airport and aircraft operators are invited to respond to the following questions:
- Have you recorded any incident where it has been shown that current ILS protection was not sufficient? How was that observed or reported?
- Did you put in place specific measures following this/these incident(s)? Which ones?
- Were you aware of the Annex 10 changes of the ILS CSA GM proposed by Amendment 84?
- Did you experience any difficulty with evaluating the impact of the proposed ILS CSA guidance material? If yes, could you please provide details?
- If you answered YES to any one of these questions, you are invited to also reply to the more detailed questionnaire provided in the annex.

RESPONSE

1. A total of 15 responses were received, 6 from European ANSPs, 8 from Aircraft Operators and one from the principal European Airline Operator Association on behalf of its Membership.
2. There were no reports of incidents in which current ILS protection was not sufficient.
3. The view was taken by some aircraft operators that signal interruptions did sometimes occur for aircraft on ILS approaches for various reasons, especially during mixed mode runway operations, but that such occurrences were within the bounds of acceptability given that existing SOPs and/or flight crew training were quite adequate to ensure that the expected response was compatible with the maintenance of acceptable levels of safety.
4. The general view of those aircraft operators who commented was that mechanisms for reporting operational safety incidents or concerns were adequate and that they had either explicit or implicit reporting criteria which would ensure the capture of any circumstance or concern about ILS signal interruption which it had not been able to adequately address using routine crew responses.
5. There was a view strongly expressed by one airline respondent, which was also broadly paralleled in similar vein by the response from the Airline Operator Association that the State Letter proposals were, excepting the specific case of the A380, an unnecessary change in the absence of any transparent operational safety justification for change to current protections. It was also stated that a Regulatory Impact Assessment should have accompanied the proposals rather than been promised in parallel with it.
6. Four out of the six ANSP responses stated that there had not been awareness of the proposals for Annex 10 Revision contained in the 20 June 2008 State Letter. One reported awareness and the remaining two did not say. The one with awareness was unable to say if they had experienced problems in evaluating the proposals.