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New! IFATCA SAFETY BULLETIN

Problems When Displaying TCAS RA's at Controller Working Positions

Displaying TCAS Resolution Advisory (RA) information from aircraft on a controller's screen (or Controller Working Position - CWP) may seem to be useful information to assist controllers – however the information displayed may be wrong or outdated and therefore unsafe.

IFATCA has clear policy regarding this. ICAO considers TCAS as a type of ACAS therefore IFATCA uses the term ACAS. IFATCA's current policy is:

IFATCA is opposed to down linking of any advisories generated by ACAS.
If down linking of ACAS Resolution Advisories becomes mandated, then IFATCA can only accept this provided that the following criteria are met:

- **Clear and unambiguous controller legal responsibilities;**
- **Downlink without delay;**
- **ATC system to be able to receive, process and display the down link to the appropriate control positions;**
- **Compatibility with all ground based safety nets;**
- **Nuisance and false alerts must be kept to an absolute minimum.**

IFATCA is concerned that at least three States (Czech Republic, Hungary and Japan) have already implemented RA display at CWPs without fully addressing the concerns listed in IFATCA's policy and that more States are considering implementations. It appears that the procedures vary between States and that some are not consistent with ICAO documentation.

Due to current technical problems, the display of an RA at a CWP is not equivalent to a pilot report of an RA.

Under current ICAO provisions, the controller is not resolved of any legal responsibilities for separation by the display of a down-linked RA. ICAO expects the controller to continue to issue clearances and instructions to separate aircraft until the pilot reports an RA. Any instructions to controllers to not issue instructions when an RA is displayed at the CWP (but there has not been a pilot report of an RA) are not consistent with ICAO.

A pilot is not aware of what information is being displayed to the controller. It is possible that the pilot may have no TCAS RA displayed in the cockpit and yet the controller is seeing an RA.

A pilot is not required to report all RAs to controllers – the pilot only reports RAs that require deviations from ATC clearance – so an RA may be displayed to a controller that the pilot has no obligation to report to the controller.

The technical issues with displaying a RA at a CWP without delay are not trivial. This means that currently there is a significant time lag between the event and its display. TCAS logic can reverse the direction if needed – this means that even if the controller is only using the RA "for information", especially "for information on the direction of the level change" – then this information

may in fact be wrong (not longer correct) at the time the controller takes action due to the delay in display. Due to close proximity of aircraft, even several seconds delay can be significant.

This Bulletin only highlights some of the issues. Information will be made available on the IFATCA Web Site (www.ifatca.org) that provides more detail, and will be updated with developments.

It is important that Member Associations (MAs) who have had implementations of RAs at CWPs, since it is at variance with IFATCA policy, should contact EVP Technical with the circumstances of the implementation and of their MA's position. MAs that know that implementations are being planned should also contact the EVP Technical.

IFATCA is working with ICAO and EUROCONTROL to determine if safe procedures for displaying RAs at CWPs can be developed. The objective is always for amendments at the ICAO level to ensure global harmonisation. This IFATCA cooperation should be seen as work for future implementations when the technical and legal problems have been addressed - and not justification of existing and pre-mature implementations.

Note: IFATCA supports the down linking of RA information for monitoring purposes by ground systems as per existing ICAO provisions – but not the display to the controller of potentially misleading information at CWPs.

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Extract from ICAO PANS-ATM (Doc 4444)

15.7.3 Procedures in regard to aircraft equipped with airborne collision avoidance systems (ACAS)

15.7.3.1 The procedures to be applied for the provision of air traffic services to aircraft equipped with ACAS shall be identical to those applicable to non-ACAS equipped aircraft. In particular, the prevention of collisions, the establishment of appropriate separation and the information which might be provided in relation to conflicting traffic and to possible avoiding action shall conform with the normal ATS procedures and shall exclude consideration of aircraft capabilities dependent on ACAS equipment.

15.7.3.2 When a pilot reports an ACAS resolution advisory (RA), the controller shall not attempt to modify the aircraft flight path until the pilot reports "Clear of Conflict".

15.7.3.3 Once an aircraft departs from its ATC clearance or instruction in compliance with an RA, or a pilot reports an RA, the controller ceases to be responsible for providing separation between that aircraft and any other aircraft affected as a direct consequence of the manoeuvre induced by the RA. The controller shall resume responsibility for providing separation for all the affected aircraft when:

a) the controller acknowledges a report from the flight crew that the aircraft has resumed the current clearance; or
b) the controller acknowledges a report from the flight crew that the aircraft is resuming the current clearance and issues an alternative clearance which is acknowledged by the flight crew.

Note: Pilots are required to report RAs which require a deviation from the current ATC clearance or instruction (see PANS-OPS (Doc 8168), Volume I, Part III, Section 3, Chapter 3, 3.2 c) 4)). This report informs the controller that a deviation from clearance or instruction is taking place in response to an ACAS RA.

15.7.3.4 Guidance on training of air traffic controllers in the application of ACAS events is contained in the Airborne Collision Avoidance System (ACAS) Manual (Doc 9863).

15.7.3.5 ACAS can have a significant effect on ATC. Therefore, the performance of ACAS in the ATC environment should be monitored.

15.7.3.6 Following a significant ACAS event, pilots and controllers should complete an air traffic incident report.

Note 1.— The ACAS capability of an aircraft may not be known to air traffic controllers.
Note 2.— Operating procedures for use of ACAS are contained in PANS-OPS (Doc 8168), Volume I, Part III, Section 3, Chapter 3.
Note 3.— The phraseology to be used by controllers and pilots is contained in Chapter 12, 12.3.1.2.