

CHANGES TO ICAO RULES REGARDING TCAS RAs (as of 22 Nov. 07)

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In the last issue of HindSight, in my article about TCAS and STCA (see *TCAS and STCA - not just anagrams*, HindSight 5, July 2007, page 19) I remarked that ICAO rules concerning RA reporting would change in the near future. ICAO has now published the changes that will become applicable on 22 November 2007. Below is the summary of the changes to ICAO PANS-ATM (Doc 4444) and ICAO PANS-OPS (Doc 8168).

PHRASEOLOGY

The first change concerns the RA report phraseology. The new phraseology is:

“TCAS RA”

The controller response to the RA report is an acknowledgement (*“Roger”*).

This change was implemented to simplify RA reporting. Previously, pilots were required to include the direction of the movement in their RA report (i.e. *“TCAS Climb”* or *“TCAS Descend”*). That sometimes led to ambiguous situations as no phraseology existed to report the most common RAs (Adjust Vertical Speed) and pilots often improvised their reports creating extra confusion in the situation that was already stressful for the controller. For example, an *“Adjust vertical speed”* RAs calling for the reduction of the climb rate due to another aircraft above were sometimes reported as *“TCAS Climb”*. In fact the aircraft was still climbing but at a lower rate. That gave the controller a false indication that the TCAS resolution was telling the pilot to continue the climb towards the other aircraft. That caused, in some cases, the controller to issue an instruction during the RA, resulting in confusion at the flight deck and prolonged radio exchanges.

On the other hand, the controllers should note, that the new phraseology may limit their awareness as to the direction of the movement of the aircraft responding to the RA.

The pilots are now required to explicitly announce the TCAS *“Clear of conflict”* message when the conflict is over:

“CLEAR OF CONFLICT, RETURNING TO (assigned clearance)”

or

“CLEAR OF CONFLICT, (assigned clearance) RESUMED”

The controller response to the *“Clear of Conflict”* report is an acknowledgement (*“Roger”*) or provision of an alternative instruction.

The clear indication of RA termination will now allow the controller to recognize when the RA is completed and when he/she can start issuing clearances or instructions to the affected aircraft.

In the event that the controller issued a clearance or instruction contradictory to the TCAS RA, the flight crew will follow the RA and inform the controller:

“UNABLE, TCAS RA”

The controller response to that RA report is an acknowledgement (*“Roger”*).

Previously, the “unable” phraseology included the direction of the RA (e.g. “*Unable, TCAS climb*”) – this change is in line with the RA reporting changes as described above.

WHICH RAs MUST BE REPORTED?

The second significant change concerns the types of RAs that must be reported. Previously, the pilots were required to report all RAs to ATC. With the change applicable on 22 November 2007 the pilots will report only those RAs that require a deviation from the current ATC clearance or instruction (“*As soon as possible, as permitted by flight crew workload [the pilots shall] notify the appropriate ATC unit of any RA which requires a deviation from the current air traffic control instruction or clearance*”).

This change should eliminate reports of RAs that are not significant for ATC, i.e. those not leading to deviation from the current clearance. That should cover the majority of RAs issued to the fast climb or descending aircraft approaching their cleared level while another aircraft is immediately above/below. ICAO believed that these reports cause unnecessary workload for the flight crews and for ATC and, therefore, excluded them from the reporting requirement.

It should be noted that in some cases pilots may have difficulty to determine whether the RA is requiring a deviation from the current ATC clearance.

WHEN DOES THE CONTROLLER CEASE TO BE RESPONSIBLE?

A change has been made clarifying the controller responsibility during an RA. Now, the defining moment when the controller ceases to be responsible is the departure from clearance or pilot report of an RA.

The amended paragraph 15.7.3.3 now reads:

“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.”*

PROVISION OF TRAFFIC INFORMATION

Until now, controllers were required to provide traffic information to the aircraft responding to the RA. This requirement has been removed as it is believed that at that point ATC traffic information provides little added value to the flight crew and might be distracting. Moreover, traffic information may be inadvertently inaccurate as the position and altitude information are delayed in surveillance processing. In some case controllers found issuing traffic information difficult due to the proximity or overlap of the aircraft labels and symbols on the screen. Also, traffic information and the visual acquisition of the intruder could prompt the pilots to stop responding to the RA. The amended paragraph 15.7.3.2 reads as follows:

“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”.

Note – the most important principle of this paragraph remains in force – once an RA has been reported, the controller shall not attempt to modify the aircraft flight path, until the pilot announces “Clear of Conflict”.