EASA

Comment Response Tool

Title	Introduction of ACAS II software version 7.1
NPA Number	NPA 2010-03

UK CAA (UK CAA, European.Affairs@caa.co.uk) has placed **6** reactions on this NPA:

NPA Pag (s)	Reaction to	Reaction	Attachments
0	(general reactions)	Page 11/12, 90 **Paragraph No:** Response to Comment 133 **Comment:** The assumption that 'when a state aircraft is operated as GAT it cannot be stated that the aircraft is carrying out military services' is false. In addition, the assumption fails to acknowledge that Article 1(2)(a) of the Basic Regulation (Regulation (EC) No 216/2008 as amended by Regulation (EC) No 1108/2009) refers to **activities** or services. **Justification:** The assumption is false on the grounds that: · A military transport aircraft routeing from A to B as GAT can be undertaking military services and activities. · Other military operations may be undertaken either wholly or in part whilst operating as GAT. · In certain circumstances it may be necessary for aircraft to operate as GAT as there are no service provision alternatives. · GAT flight by military aircraft is not confined to transport types. Fast jet types can operate as GAT and it must be noted that ICAO ACAS Manual (Doc 9863) states that ACAS II was not designed with the intent of being installed in 'tactical military' aircraft. See also comment below against AUR.ACAS.001 SCOPE **Proposed Text:** Draft text at AUR.ACAS.001 SCOPE reverts to original wording.	
0	(general reactions)	Page 12, 15 **Paragraph No:** Response to Comments 135, 107 **Comment:** Response states that the proposed regulation will apply to military aircraft. This represents a significant change to the draft Regulation and goes beyond the competency of the Agency. In addition, the measure has not been consulted on and runs counter to the Basic Regulation.	

		Justification: The premise upon which the change is justified is false (see Agency response to comment 133) - military operations may be undertaken either wholly or in part whilst operating as GAT, for example a military transport aircraft flying from A to B. **Proposed Text:** Draft text at AUR.ACAS.001 SCOPE reverts to original wording.	
0	(general reactions)	Page 18/19 **Paragraph No:** Response to Comment 53 **Comment**: It is erroneous for the Agency to assume that [with respect to Unmanned Aircraft Systems (UAS)] 'if the UAS is a fixed-wing aircraft it will be classified as an aeroplane, thus if the UAS is greater than 5700 kg and will be operated in non-segregated airspace as GAT the rule will apply.' ICAO Circular 328 - Unmanned Aircraft Systems (UAS) (to be published in November 2010 - approved by the Secretary General and an advance (unedited) edition is now on the ICAO-NET) reminds us that *Airborne Collision Avoidance System (ACAS) Manual* (Doc 9863), paragraph 1.5.3, ACAS II, states that: "ACAS II was not designed with the intent of being installed on tactical military (e.g. fighter aircraft) or unmanned aircraft. As such, there are technical and operational issues that must be addressed and resolved prior to installing ACAS II on these types of aircraft." The nature and extent of the technical and operational issues will have to be assessed before any determination can be made as to the applicability of ACAS II for the Unmanned Aircraft (UA). **Justification:** It is not considered acceptable to use TCAS/ACAS II as part of an acceptable UAS Detect/Sense and Avoid system. This does not necessarily mean that it is not capable; rather that it has not been fully tested for suitability with UAS. Issues revolve around the performance parameters of unmanned aircraft (i.e, as they generally have lower performance characteristics than other TCAS-equipped aircraft - they are slower and have lower Rates of Climb/Descent) and so they may not be able to perform the required avoidance manoeuvres quickly enough. Also, there is the 'remotely piloted aspect', in that there could be a time delay between the RA being detected by the UAS equipment and the point at which the remote pilot's reactive inputs are enacted by the Unmanned Aircraft (UA) itself - the time delay may be too long. In addition, issues of datalink integrity may need to be addressed. We're also not yet at the point where we would happily allow	

		'automatic' responses to RAs (i.e, the UA responds without the pilot's intervention)	
0	(general reactions)	Page 39 **Paragraph No:** Comment 32 and AMC.AUR.ACAS.200 **Comment:** In response to NPA-2010-03 consultation, the UK CAA noted that the word "should" was used throughout AMC.AUR.ACAS.200 in places where the AMC is repeating the rule. This was justified on the basis that it resulted in disparity with the proposed rules and ICAO requirements. The Agency rejected the UK CAA suggestion, however the UK CAA acknowledges the purpose and wording of AMC material, noting that AMC.AUR.ACAS.200 has been deleted in toto, thus rectifying the discrepancy. The UK CAA welcomes this development.	
0	(general reactions)	Page 90 **Paragraph No:** AUR.ACAS.001 SCOPE **Comment:** Article 1 (Applicability) and AUR.ACAS.001 SCOPE appear to contradict each other, with the latter also contradicting Article 1(2)(a) of the Basic Regulation (Regulation (EC) No 216/2008 as amended by Regulation (EC) No 1108/2009). It can also be argued that AUR.ACAS.001 SCOPE (on the basis of Agency comment in the CRD) amends the meaning and purpose of Article 1(2)(a) of the Basic Regulation by removing the latter's applicability to State aircraft with regards to ACAS II equipment. This is inappropriate; the intent must be withdrawn and the text reverted to its original wording. In addition to the above, this subpart establishes the specific requirements for the carriage of ACAS II equipment to be met by all operators operating as General Air Traffic undertaking flights within the airspace above the territory of the Member States to which the Treaty applies. Does this then mean that aircraft may operate as GAT in High Seas airspace using a different standard of ACAS II equipment? If so, is this not detrimental to safety? **Justification:** Article 1 (Applicability) states that 'This Regulation lays down common requirements and procedures for all users of the airspace to which the Treaty applies'. Article 1(2)(a) of the Basic Regulation (Regulation (EC) No 216/2008 as amended by Regulation (EC) No 1108/2009), as the latter clearly states that it shall not apply to: (a) products, parts, appliances, personnel and organisations referred to in paragraph 1(a) and	

		(b) while carrying out military, customs, police, search and rescue, firefighting, coastguard or similar activities or services. The Member States shall undertake to ensure that such activities or services have due regard as far as practicable to the objectives of this Regulation'. Therefore applicability cannot apply to State aircraft. AUR.ACAS.001 (Scope) seeks to establish 'the specific requirements for the carriage of ACAS II equipment to be met by all operators operating as General Air Traffic undertaking flights within the airspace above the territory of the Member States to which the Treaty applies'. This has been based on the false assumption that 'when a state aircraft is operated as GAT it cannot be stated that the aircraft is carrying out military services', and fails to acknowledge State aircraft ***activities***. In addition, it fails to acknowledge that flight as GAT by military aircraft is not confined to transport types and that, as acknowledged in ICAO ACAS Manual (Doc 9863) ACAS II was not designed with the intent of being installed in 'tactical military' aircraft. Article 1 as presented in the CRD would preclude the GAT option to many State aircraft as these are either incompatible with ACAS II equipage, or States budgetary limitations would not readily facilitate equipage. The net result would be the imposition of significant impacts upon State aircraft operations with the potential for the effectiveness of these to be severely constrained, to the detriment of State security. Article 1(2)(a) of the Basic Regulation requires Member States to 'undertake to ensure that such activities or services have due regard as far as practicable to the objectives of this Regulation'. This must be reflected in the wording AUR.ACAS.001. **Proposed Text:** Draft text at AUR.ACAS.001 SCOPE reverts to original wording.	
0	(general reactions)	Page 90 **Paragraph No:** AUR.ACAS.100(b) Performance requirement. **Comment:** **'**Aircraft not referred to in (a) but that are also equipped with ACAS II, shall have collision avoidance logic version 7.1.' This is appropriate to those types of aeroplanes to which the discriminants at AUR.ACAS.100(b) apply, but not to those to which they do not apply but have been subject to voluntary equipage, plus helicopters and State aircraft. **Justification:** If equipage is (or has been) undertaken it is sensible for the equipment to be at the mandated standard. However, if equipage is undertaken on	

		a voluntary basis (regardless of the aircraft type - this includes helicopters (the mandate applies only to aeroplanes or operator) - adoption of subsequent software standards should also be on a voluntary basis. Operators that have voluntarily equipped their aircraft (i.e, aeroplanes and helicopters) with TCAS II may find the imposition of V7.1 financially unacceptable and as a consequence remove, or inhibit the use of, such equipment. The net result will be an increase in incompatibility (i.e, the diminution of a co-operative operating environment) and an associated reduction in safety. **Proposed Text:** (b) any other aircraft equipped with ACAS II should be equipped with ACAS II with collision avoidance logic version 7.1.	

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