

**IBAC Bulletin 14- 03**

**Subject: HUD/EVS/SVS/CVS –  
Understanding ICAO provisions applicable to  
International General Aviation Operations**

**Introduction**

Amendments to Annex 6 Part I (International Air Transport Operations) and Annex Part II (International General Aviation Operations) have recently been adopted that add provisions relating the Head Up Displays (HUD), Enhanced Vision Systems (EVS), Synthetic Vision Systems (SVS) and Combined Vision Systems (CVS).

**Purpose**

This Bulletin relates to the Annex 6 Part II (International General Aviation Operations....aka non-commercial operations) provisions in Amendment 33 (Effective 14 July 2014, Applicable 13 November 2014).... see attachment hereto for excerpted cites. In the first instance this Bulletin provides background on the intent of the provisions and subsequently provides information on the interpretation and application of the provisions.

**Discussion**

The HUD/EVS/SVS/CVS provisions were developed by the ICAO Operations Panel. Having drafted the provisions for Annex 6 Part I, the Panel agreed that the provisions for Annex 6 Part II

regarding the processes for the authorization/approval for the operational use of these systems by General Aviation need not be as onerous on operators and the State of Registry regulator as those prescribed in Annex 6 Part I. The Panel therefore formulated the provisions accordingly and to provide a level of risk appropriate to the type of operation. IBAC welcomed and supported this approach.

Subsequent to the approval of the amendment by the ICAO Council IBAC has received several queries from operators regarding the interpretation and application of the provisions 2.4.15.2 and 3.6.13.2. This led IBAC to closely analyse these provisions and consult with the ICAO Secretariat to ensure that the provisions as approved correctly reflect the intent described above.

An opportunity arose during the ICAO Operations Panel Meeting (2-6 June 2014) for IBAC to raise the issue. The Panel:

- reaffirmed the intent of the provisions,
- acknowledged that the provisions do not correctly reflect the intent and tasked a sub-group to develop a proposal to correct the provisions, and
- accepted a text for inclusion in the next edition of the ICAO All Weather Operations Manual to clarify the interpretation and application of the provisions (see Attachment B hereto for details)

## **Operational Credits**

In accordance with Annex 6 Part II 3.4.2.7.2 operational credits require approval by the State of Registry.

N.B. In this case the approval requirement is identical to that in Annex 6 Part I.

## **Operational use of HUD/EVS/SVS/CVS**

Reference is made to Annex 6 Part II 2.4.15.1, 2.4.15.2, 3.6.13.1 and 3.6.13.2.

Paragraph 2.4.15.1 requires the State of Registry to establish ‘criteria for the use of such systems for the safe operation of the aeroplane’. This is the key to the understanding by operators and regulators of the foundation for the ‘approval’ prescribed in 3.6.13.1. From this it follows that, providing the operator fulfills the criteria established by the State of Registry, there is no need for the operator to apply for an operational approval nor for the regulator to issue an explicit approval (i.e. LOA)<sup>1</sup>.

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## Chapter 2

### **2.4.15 Aeroplanes equipped with a head-up displays (HUD) and/or or equivalent displays, enhanced vision systems (EVS), synthetic vision systems (SVS) and/or combined vision systems (CVS)**

2.4.15.1 Where aeroplanes are equipped with a HUD and/or or equivalent displays, EVS, SVS or CVS, or any combination of those systems into a hybrid system, criteria for the use of such systems to gain operational benefits for the safe operation of an aeroplane shall be approved established by the State of Registry.

*Note.— Guidance on HUD and EVS is contained in Attachment J to Annex 6, Part I.*

*Note.— Information regarding a HUD or equivalent displays, including references to RTCA and EUROCAE documents, is contained in the Manual of All-Weather Operations (Doc 9365).*

2.4.15.2 In approving the operational use of a HUD or equivalent displays, EVS, SVS or CVS, the State of Registry shall ensure that:

- a) the equipment meets the appropriate airworthiness certification requirements;
- b) the operator has carried out a safety risk assessment of the operations supported by the HUD or equivalent displays, EVS, SVS or CVS;
- c) the operator has established and documented the procedures for the use of, and training requirements for, a HUD or equivalent displays, EVS, SVS or CVS.

*Note 1.— Guidance on safety risk assessments is contained in the Safety Management Manual (SMM) (Doc 9859).*

*Note 2.— Guidance on operational approvals is contained in Attachment 2.B.*

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## Chapter 3

3.4.2.7.2 The State of Registry may approve operational credit(s) for operations with aeroplanes equipped with automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS. Such approvals shall not affect the classification of the instrument approach procedure. .

*Note 1.— Operational credit includes:*

*a) for the purposes of an approach ban (2.2.4.1.2), a minima below the aerodrome operating minima;*

*b) reducing or satisfying the visibility requirements; or*

*c) requiring fewer ground facilities as compensated for by airborne capabilities.*

*Note 2.— Guidance on operational credit for aircraft equipped with automatic landing systems, a HUD or equivalent displays, EVS, SVS and CVS is contained in Attachment 2.B and in the Manual of All- Weather Operations (Doc 9365).*

*Note 3.— Information regarding a HUD or equivalent displays, including references to RTCA and EUROCAE documents, is contained in the Manual of All-Weather Operations (Doc 9365).*

**3.6.13 Aeroplanes equipped with automatic landing systems, a head-up displays (HUD) or equivalent displays, enhanced vision systems (EVS), synthetic vision systems (SVS) and/or combined vision systems (CVS)**

3.6.13.1 Where aeroplanes are equipped with automatic landing systems, a HUD or equivalent displays, or EVS, SVS or CVS, or any combination of those systems into a hybrid system, the use of such systems for the safe operation of an aeroplane shall be approved by the State of Registry.

*Note.— Information regarding a HUD or equivalent displays, including references to RTCA and EUROCAE documents, is contained in the Manual of All-Weather Operations (Doc 9365).*

3.6.13.2 In approving the operational use of automatic landing systems, HUD or equivalent displays, EVS, SVS or CVS, the State of Registry shall ensure that:

- a) the equipment meets the appropriate airworthiness certification requirements;
- b) the operator has carried out a safety risk assessment associated with the operations supported by the automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS;
- c) the operator has established and documented the procedures for the use of, and training requirements for, automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS.

*Note 1.— Guidance on safety risk assessments is contained in the Safety Management Manual (SMM) (Doc 9859).*

*Note 2.— Guidance on operational approvals is contained in Attachment 2.B.*

## **Attachment B**

Text for AWO Manual to explain how to apply standard in Annex 6, Part I, Amd 38, paragraph 6.23 and corresponding paragraphs in Parts II and III.

### **6.10 Approval of the use of autoland systems, HUD, equivalent display, EVS, SVS or SVS or any combinations of these systems for the safe operation of an aircraft**

6.10.1 The standard in Annex 6, Part I, paragraph 6.23.1, in Part II, paragraph 3.6.13.3.1 and in Part III, paragraph 4.16.1, requires that the use of auto-land systems, a HUD, an equivalent display, EVS, SVS or CVS or any combinations of those systems

into a hybrid system must be approved when those systems are used “for the safe operation of an aircraft”.

6.10.2 For commercial air transport operations the approval is to be granted by the State of the Operator. For general aviation with large or turbojet aeroplanes, the approval is to be granted by the State of Registry. For other forms of general aviation, with aeroplanes and helicopters, no approval of the use of such systems is required. Instead criteria for the use of any of these systems must establish by the State of Registry. The related standards can be found in Annex 6, Part II, paragraphs 2.4.15.1 (about the establishment of criteria) (about the approval of the use in case of large or turbojet aeroplanes). For helicopters the related standards can be found in Annex 6, Part III, paragraphs 4.11.1 (the establishment of criteria for the use in case of general aviation) and 4.16.1 (the approval of the use in case of commercial air transport).