

CAP 777



Published by the Civil Aviation Authority, 2016

Civil Aviation Authority,
Aviation House,
Gatwick Airport South,
West Sussex,
RH6 0YR.

You can copy and use this text but please ensure you always use the most up to date version and use it in context so as not to be misleading, and credit the CAA.

First published November 2011

Second edition July 2013

Third edition June 2016

Fourth edition February 2017

Enquiries regarding the content of this publication should be addressed to: airspace@caa.co.uk

The latest version of this document is available in electronic format at www.caa.co.uk, where you may also register for e-mail notification of amendments.

September 2018

Contents

Contents	1
Chapter 1	3
General principles	3
Definition	3
Responsibility	3
Purpose of an SMAA	4
Descent below SMAA (FAVA)	5
Terrain clearance criteria	5
Contingency ATCSMAC planning	6
Chapter 2	8
Design and specification	8
Nominal standard dimensions	8
Design principles	8
SMAA	8
FAVA	9
MSA	10
Obstacle data	10
Other design considerations	11
Specifications	11
Chart	12
Minimum initial altitude	13
Outside the SMAA	13
Loss of communication procedures	13
General information	13
Chapter 3	15
Promulgation and approval	15
New ATCSMAC chart request	15
Periodic review at an interval not exceeding 5 years	16
Operational amendment	16
Non-operational amendment	18
Summary	18
Appendix A	20
Single runway dimensions	20

Appendix B.....	21
Multiple runway dimensions	21
Appendix C.....	22
Terrain clearance and lateral sectorisation.....	22
Appendix D.....	23
ATCSMAC review / amendment sheet.....	23
Appendix E	24
ATCSMAC promulgation workflow	24

Chapter 1

General principles

Definition

The UK defines a Surveillance Minimum Altitude Area (SMAA) as follows:

- 'A Surveillance Minimum Altitude Area is a defined area in the vicinity of an aerodrome, in which the minimum safe levels allocated by a controller vectoring IFR flights with Primary and/or Secondary Surveillance RADAR equipment have been predetermined.'

It should be noted this definition reflects the UK application of the ICAO procedures based on tactical vectoring described in ICAO Documentation (Doc. 4444 PANS-ATM Chapter 8 and Doc. 8168 PANS-OPS, Volume II, Part II, Section II Chapter 6).

Details of published SMAAs are in the AD 2 section of the UK AIP.

The SMAAs and associated detail are commonly referred to as an 'ATCSMAC' (Air Traffic Control Surveillance Minimum Altitude Chart). Historically known as Radar Vectoring Area (RVA) charts, ATCSMACs are an ICAO requirement and further detail can be found in ICAO Annex 4, Chapter 21.

Responsibility

The Airspace Regulation Section of the UK CAA is responsible for ATCSMAC policy and specification, both of which are based on ICAO standards. Additionally the Airspace Regulation Section is required to approve any new ATCSMAC design, any periodic ATCSMAC review or any request to amend the operational element of an existing ATCSMAC. This operational element is detailed further in Chapter 3.

The aerodrome licence holder is responsible for the ATCSMAC. The aerodrome licence holder or representative acting on the licence holder's behalf is responsible for the initial design, routine maintenance and periodic review of their aerodrome's ATCSMAC. They will be referred to as the 'Sponsor' throughout this document. The

ANSP responsible for providing ATC for the airport shall be consulted regarding any proposed amendments to the ATCSMAC.

An Approved Procedure Designer (APD) shall be contracted by the Sponsor to carry out any new ATCSMAC design, any periodic ATCSMAC review or any request to amend the operational element of an existing ATCSMAC.

ATCSMACs will remain valid for a maximum period of five years and a review should be aligned with a review of the other Instrument Flight Procedures at the aerodrome. Operational or non-operational amendments should also be issued at any time when significant change occurs, however these changes if promulgated in isolation will not constitute a periodic review.

Purpose of an SMAA

The purpose of an SMAA is:

1. To relieve controllers of the responsibility for determining the appropriate minimum safe levels in the vicinity of the aerodrome, where the sequencing and separation of arriving IFR flights to comply with the UK requirement that aircraft shall be vectored to join final approach at no less than 5 NM from touchdown.
2. To provide pilots with an indication of the minimum altitudes which ATC will allocate when vectoring an aircraft below the published Minimum Sector Altitude (MSA).

It is important to recognise that the designated SMAA may not be the only area within which vectoring may take place. When vectoring flights outside the SMAA, the controller is responsible for determining and providing the required terrain clearance as specified in CAP 493, Manual of Air Traffic Services Part 1.

It should be recognised that traffic may not be allowed to operate within certain portions of an SMAA, such as Prohibited, Restricted or notified Danger Areas. These areas shall be shown on the ATCSMAC.

SMAAs do not constitute controlled airspace nor do they attract any special airspace regulation in their own right.

Descent below SMAA (FAVA)

The minimum altitudes available within the SMAA sector should be adequate to permit vectoring of an aircraft to the final approach of a published IAP inc.

Surveillance RADAR approach. However, there may be circumstances where further descent below the SMAA, either on the final approach track, or while establishing on the final approach track, provides operational flexibility. The area that provides this facility is known as Final Approach Vectoring Area (FAVA).

The dimensions of the nominal standard FAVAs are shown at Appendices A and B.

FAVAs should be shown for all runways where applicable, however, to simplify the ATCSMAC, FAVAs need not be shown if there is no difference between the minimum levels depicted and that of the SMAA itself.

Terrain clearance criteria

The minimum altitude available to ATC for vectoring arriving flights within an SMAA sector is 300m (984ft) above the highest (dominant) obstacle.

To determine the minimum altitude available within an SMAA sector, all obstacles within the sector and the extended Primary SMAA buffer (PSB) should be identified. The width of the PSB is dependent on the Surveillance RADAR lateral separation certified for use with the ATCSMAC, i.e. 3NM or 5NM. The PSB also requires a full Minimum Obstacle Clearance (MOC) value of 300m (984ft).

The addition of 300m (984ft) feet to the elevation of the highest obstacle within the resultant area will determine the minimum initial altitude available. The resultant figure is then rounded up to the next (higher) 100ft interval. See Appendix C.

Where operationally desirable, the SMAA may be split into two or more sectors to provide relief from obstacles that would affect only one runway circuit direction. A complex sector arrangement which might be difficult for flight crew or controllers to assimilate should be avoided.

Instrument Approach Procedure (IAP) Minimum Sector Altitudes (MSAs) shall be shown on the ATCSMAC to indicate the minimum level that should be attained by

aircraft intentionally leaving the SMAA. The ATCSMAC shall state which reference Navaid is utilised by the IAPs to ascertain the MSAs. If an airport has multiple procedures referenced to differing reference Navaids then the highest MSA values are to be applied.

Contingency ATCSMAC planning

Occasionally an outage, withdrawal or reduction of an airport's Surveillance RADAR service may occur.

Short-term unplanned outages are not considered within the remit of this document. In such situations the ATCSMAC is invalid and the Sponsor will apply locally specified contingency procedures. However, the Sponsor is required to inform Airspace Regulation if a short-term unplanned outage is likely to continue for an extended period. If this is the case, the contingency plans for planned long-term outages as detailed below should be adopted.

Outages that may occur due to the renewal or replacement of equipment are likely to extend over a prolonged period. In such instances it may be operationally undesirable to revert to the published MSA. Consequently the Sponsor may consider the implementation of a contingency ATCSMAC plan if an alternative, appropriate Surveillance RADAR facility is available for the duration of the outage.

These longer-term outages will require careful planning and Airspace Regulation should be notified at the earliest opportunity, so as to assist in the implementation of a contingency ATCSMAC plan. Notification at least six months prior to the planned suspension of an existing ATCSMAC is required.

In the first instance the promulgation of a NOTAM should be the preferred method of notifying a temporary suspension of the current ATCSMAC in the UK AIP. This should suffice if the impact of the outage on the ATCSMAC is minimal e.g. the physical extents of the SMAA/s remain unchanged, but the minimum initial altitudes are raised.

If it is considered that a NOTAM will not be sufficient to impart the required level of detail and situational awareness e.g. multiple changes in SMAA boundaries, then it