

Air Traffic Control Surveillance Minimum Altitude Chart (ATCSMAC) Review Process

CAP 1374 – ATCSMAC Consultation



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Background

This consultation relates to the review process associated with the Air Traffic Control Surveillance Minimum Altitude Charts (ATCSMACs) and the continued assessment of the Surveillance Minimum Altitude Areas (SMAAs) depicted on the chart.

The purpose of an SMAA is:

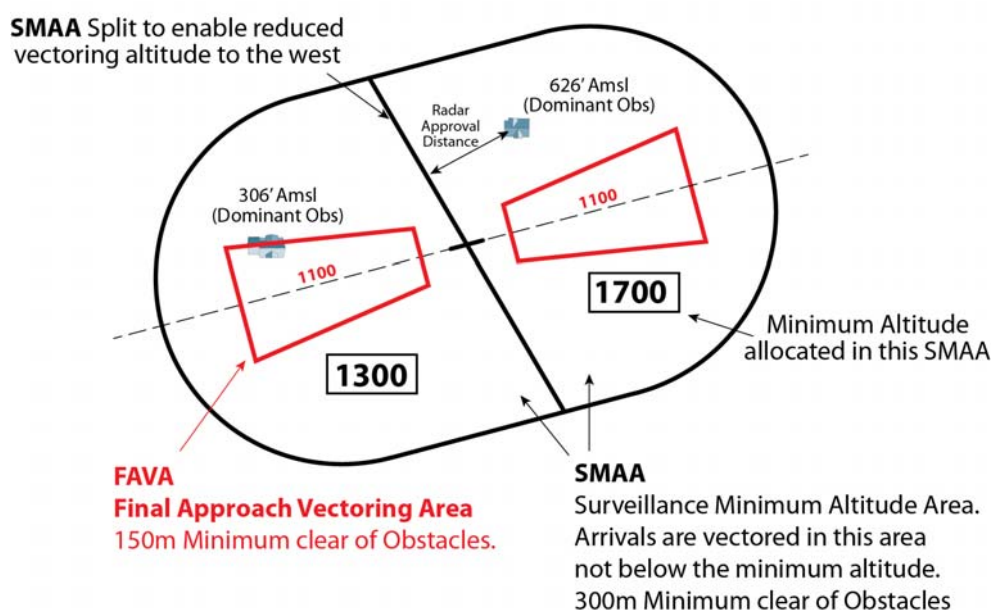
- a) To relieve **controllers** of the responsibility for determining the appropriate minimum safe levels in the vicinity of the aerodrome, while sequencing and separating arriving Instrument Flight Rules (IFR) flights so as to comply with the UK requirement that aircraft shall be vectored to join final approach at no less than 5 NM from touchdown
- b) 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).

These SMAAs are based laterally as per the dimensions in [CAP 777](#) and vertically to safely clear all obstacles as per the ICAO requirement for vectoring IFR flights with Primary and/or Secondary Surveillance RADAR equipment.

The publication of the ATCSMAC for the UK Aeronautical Information Publication (AIP) is an ICAO requirement - Annex 4 & Annex 15 refers.

The current process for the initial design and subsequent 5 year review of the ATCSMAC is detailed in [CAP 777](#), which will be updated accordingly following the consultation.

ATCSMAC - Typical Example



Why are we consulting?

Some 6 years ago and after full consultation, the design of [Instrument Flight Procedures \(IFPs\)](#) were outsourced from CAA to industry. Since then the CAA role has been to approve (or otherwise) IFP designs, thus creating a clear divide between service provision and CAA regulation.

The ATCSMACs, although falling under the umbrella of IFP, were not included in the original outsourcing consultation and have always been carried out as a separate function at a separate time. It is apparent that Airports, however well intentioned, do not have the software tools, expertise or the necessary data to carry out the review to the current standards required, with the result being that the critical elements of the ATCSMAC review are, as a failsafe, carried out by the CAA. This service to the Airport contradicts our position as regulator.

Furthermore, data quality requirements are set to become more stringent following the publication of the Aeronautical Data Quality Implementing Rule (ADQIR), which is being progressively implemented over the coming months. The CAA believes that it is important to ensure this safety critical data is originated by suitably qualified organisations, whilst the CAA role is purely that of a regulator rather than a service provider.

The current process

Although the current process (as detailed in [CAP 777](#)) **does** require the Airport to check and submit all the necessary data, it is clear that this is not achievable 'in-house', therefore submissions are not of a reliable or acceptable standard. The CAA however, does have this specialist resource to call upon and it has always been the easy option for the CAA to undertake the review on behalf of the Airport. The process includes:

- Instigating and managing the review/change process.
- Combining Obstacle data from Military, Airport Survey and Ordnance Survey
- Carrying out obstacle analysis against currently published safety altitudes for Surveillance Minimum Altitude Areas (SMAAs), Final Approach Vectoring Areas (FAVAs) and Minimum Sector Altitudes (MSAs)
- Liaison with Airport regarding results and possible vertical and lateral re-configuration
- Assessing any impact on Airport operations if safety altitudes are raised.
- Agreement and annotation any subsequent amendments
- Submitting agreed AIP change requests for the airport.
- Approving changes implemented by AIS on draft AIP chart
- Documenting and storing the review for Quality Management Purposes

An average review would take approximately 2 working days of a suitably qualified IFP Regulator and require the use of specialised GIS tools. Applying the standard IFP Scheme of Charges rate (£160 per hour) would equate to £2,240 per review. Therefore over the 5 year review period for the 45 Airports in scope, £100,800 of CAA work is undertaken for the Airports in scope at no cost.

Key issues within the current process

1a. Data Access

While the Airport has access to the immediate obstacle environment via the [CAP 232](#) Survey, it does not have access to the restricted Digital Vertical Obstruction File (DVOF), which is an obstacle data set covering the whole UK owned and updated by the Ministry of Defence. This means that beyond 15KM of the runway, the airport has no reliable access to obstacle data whilst still requiring to vector traffic above it at a safe altitude.

1b. Data Quality

Current submissions do not meet the required standards and this situation will escalate as new regulations on data quality are fully implemented. The ADQIR was introduced to ensure aeronautical data and information is of sufficient quality to support modern safety and efficiency standards, and to enable future concepts of air navigation to be implemented under Single European Sky (SES) initiatives. [CAP 1054](#) provides UK policy and guidance for all parties involved in the origination, management, exchange and publication of aeronautical information and data included in the UK AIP.

2. Separation of Service Provision and Regulation

The CAA role is that of a regulator, by undertaking the ATCSMAC reviews, CAA is providing a service. Clear separation is required between the 2 functions.

3. CAA Provision of Gratis Review Service to Airports

The department currently tasked with the reviews (Airspace Regulation) is funded through the En-Route charge which is paid directly by airlines. It could be argued that this funding should not be used to facilitate a process that directly benefits Airports.

4. Alignment of ATCSMAC and other IFP related material

The ATCSMAC reviews are currently carried out as a separate function and at a separate time to the rest of the IFP charts. This creates inconsistency between the ATCSMACs and the Instrument Approach Charts (IACs), Standard Departure Charts (SIDs), and Standard Arrival Charts (STARs) – all of which contain related data.

Options going forward – What has been considered?

Option 1 – Do Nothing.

Do nothing to the current process

How would this option impact on our key issues?

- ADQ data quality requirements are **not and will never** be met
- Airports do not have the adequate expertise or necessary data
- Work undertaken by CAA on behalf of Airports, which means the ENR charge directly subsidising Airports
- No separation between regulation and service provision
- CAA does not cover costs
- Inconsistencies across IFP related products

Option 2 – CAA Cost recovery

a) Do nothing to the process and...

b) CAA introduces approval charge in line with the current IFP Scheme of Charges.

How would this option impact on our key issues?

- ADQ data quality requirements are **not and will never** be met
- Airports do not have the adequate expertise or necessary data
- No separation between regulation and service provision
- CAA costs recovered
- Inconsistencies across IFP related products

Option 3 – CAA Assist Airport and CAA Cost recovery

a) Amend process so that CAA further assists the Airport with the review and...

b) CAA introduces approval charge in line with the current [IFP Scheme of Charges](#).

How would this option impact on our key issues?

- ADQ data quality requirements are very unlikely to be met
- Airports do not have the adequate expertise and necessary access to data
- Increased work undertaken by CAA on behalf of Airports
- Licensing issues if CAA supplies mapping or data to Airports.
- No separation between regulation and service provision
- CAA costs recovered
- Inconsistencies across IFP related products

Option 4 – APD to carry out review and CAA Cost recovery

a) Review contracted to an Approved Procedures Designer (APD) and...

b) CAA introduces approval charge in line with the current [IFP Scheme of Charges](#).

How would this option impact on our key issues?

- Approved Procedure Designers (APDs) have the expertise **and** necessary access to data (MOD cleared) to carry out review to required standard.
- Review is carried out to a higher standard of accuracy/precision and **will meet future ADQ requirements**.
- Clear separation between service provision and regulation.
- CAA resource reduced and costs recovered.
- Airports paying for services they receive and for subsequent regulatory approval.
- IFP reviews synchronised – ensuring consistency across the AIP.

Our current thinking

It is clear that action is needed to improve the quality and reliability of the reviews and to ensure that all parties are fully meeting their requirements. Option 4 would seem the only viable way forward.

If Option 4 were introduced

The 45 radar equipped airports in scope all have IFPs and the requirement already exists to review these IFP procedures every 5 years. These reviews are currently carried out by the airport's nominated APD and it is envisaged that the airport would contract the same APD to carry out the review of the ATCSMAC at the same time. The APD would already have completed a large percentage of the work during the IFP review, so it would be a relatively simple additional task to compare the (already captured) obstacles against the basic ATCSMAC sectors. This additional APD task we would estimate at 1 additional day. Of note is that APDs are already MOD cleared, so have access to the UK DVOF obstacle list.

The APD will then advise the airport if there are any operational amendments required to the ATCSMAC and only when this is agreed between the 2 parties should the proposal be submitted to the CAA for regulatory approval.

The subsequent approval charge from CAA will equate to 2 hours work at the standard IFP rate - £320 per review. So over the 5 year period £14,400 of costs recovered. This new activity will be detailed alongside the other standard [IFP Scheme of Charges](#).

This proposed charge of £320 is subject to industry comment via inclusion within the CAA 2016/17 Charges Consultation launched on 1 February 2016. It is planned to implement this charge within the IFP Scheme of Charges with effect from 1 June 2016.

The future role of the organisations involved would then be clearly defined:

- **CAA** - a) Instigate the Review b) Approve Review and recover costs in line [with IFP scheme of charges](#), c) Approve final versions of charts before publication
- **Airport** – a) Contract an APD to carry out IFP review, b) Identify and Submit AIP Change requests.
- **Contracted APD** –a) Review carried out as per relevant CAP guidance b) meet ADQIR when fully implemented.

Who is potentially impacted by option 4 and how?

- **45 licensed Airports with Active Primary and/or Secondary Radar** - Would be required to pay an increased fee to their chosen APD (approx. 1 extra day) as well as cover the proposed CAA approval charge (£320) as per the IFP Scheme of Charges.
- **Approved Procedures Design Organisations (APDs)** – Additional requirement (approx. 1 extra day) to carry out the ATCSMAC reviews in line with the relevant [ICAO](#) requirements, [CAP 777](#) and [CAP 1054](#) when fully implemented.
- **CAA** – Responsible only for approving the reviews, with a single approval charge (£320) to be recovered which will total **£14,400** over the 5 year period for all Airports in scope. The reviews are no longer undertaken by CAA and the withdrawal of this service provision will save approx **£100,800** based on 90 working days over the same period.

Additional information

To ease transition of the ATCSMAC reviews (from CAA to Airport/APD) the CAA will, wherever possible, assist the Airport/APD with advice and data as appropriate.

The timescales for review would, as mentioned, be aligned with the full IFP review, but if such alignment dictated that a recently reviewed ATCSMAC require revision in an unreasonable time period, we would not necessarily insist this review be completed. A common sense solution would be agreed on a case by case basis.

Responses

We encourage you to respond to the above consultation, noting that option 4 is our preferred way forward.

We will comment on all relevant responses in a document on the same consultation page shortly after the deadline for responses, which is 10/3/2016.

Responses should be sent via email to airspace@caa.co.uk and include, Name and Organisation as well as your comments.