OSPREY
CONSULTING SERVICES

St Athan ILS ACP (ACP-2018-35)

Step 4B Airspace Change Proposal

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The Hub, Fowler Avenue, Farnborough Business Park, Farnborough, GU14 7JP
01420 520200 / enquiries@ospreycsl.co.uk
Registered in England and Wales under No: 06034579

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Reviewer	Osprey CSL	[redacted]

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1 References

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2	Step 1B Design Principles (71322 / 001)	11 Jul 19
3	Step 2A Options Development (71322 / 002)	19 Jul 19
4	Step 2B Options Appraisal (71322 / 003)	19 Jul 19
5	Environmental Letter to CAA (71322/004)	5 Aug 19
6	Step 3A Consultation Strategy (71322 / 009)	13 Sep 19
7	Step 3A Consultation Document (71322 / 010)	13 Sep 19
8	Step 3A Full Options Appraisal (71322 / 011)	13 Sep 19
9	Step 3D Collate and Review Responses (71322 / 012)	29 Oct 19
10	Step 4A Final Options Appraisal Update and Submit (71322 / 013)	12 Nov 19

Table 1 References

2 Introduction

2.1 Introduction to the St Athan ILS ACP

St Athan Airport, owned by the Welsh Government (WG) and operated by Cardiff Airport (under a Joint Venture with WG since 31st March 2019), transitioned on 31st March 2019, from Military Aviation Authority (MAA) oversight to Civil Aviation Authority (CAA) oversight through the issue of a CAA Aerodrome Ordinary Licence.

For over 10 years St Athan has been equipped with an Instrument landing System (ILS) to runway 25 and this ILS has two procedures that have been published in the Military Aeronautical Information Publication (Mil AIP). These two procedures were overseen by the CAA Aerodrome Standards and ATC Standards departments during the design process, in order to ensure interoperability with the CAA's requirements.

Due to the transition to CAA oversight, these two procedures now need to be transferred from the UK Mil AIP to the civil UK AIP.

No change to the design of procedures or the surrounding airspace is proposed, nor will the change result in any increases in traffic levels.

2.2 Background – a Scaled CAP1616 Airspace Change Process

This document forms part of the set required to meet the requirements of the CAP 1616 airspace change process and aims to satisfy the Stage 4A Update and Submit, and Stage 4B Airspace Change Proposal.

The CAA Airspace Regulation Department has agreed[1] to a scaled ACP submission for this proposal. At a combined 'Define' and 'Develop & Assess' Gateway the CAA assessed the level for the airspace change as Level 2C, which typically does not alter traffic patterns below 7,000 feet (above mean sea level).

The sole aim of this proposal is to enable the publication of the existing CAA-approved St Athan ILS procedures, previously published in the Mil AIP, in the UK AIP.

The proposal does not alter traffic patterns below 7,000 feet. The primary users of ILS procedures are commercial aircraft arriving to use St Athan's Maintenance Repair and Overhaul (MRO) facilities. Although they comprise only around 1% of St Athan's annual movements, aircraft for MRO have a disproportionately positive economic impact on the airport and the surrounding area of South Wales.

[1] Email [redacted] RE: 71299 - St Athan ILS Procedures ACP-2018-35 (sent 13:18 on Fri 14/06/2019)

3 Executive Summary

3.1 Executive Summary

This paper addresses the need to move two ILS procedures that were published in the Military Aeronautical Information Publication (Mil AIP) into the UK Civilian AIP (UK AIP). The procedures themselves will be unchanged and will therefore not represent a planned and permanent redistribution of air traffic as described in Civil Aviation Publication (CAP) 1616 Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements, although it does represent a change to the manner in which it is notified.

The Airspace Change Process (ACP) has been conducted at Level 2C as allocated by the CAA and in accordance with CAP 1616.

The Stage 3C consultation process attracted 21 replies, all of which were received through the CAA Airspace Change portal; of these replies 20 were supportive and 1 was neutral. These replies are detailed in the Step 3D Consultation Review Document (Ref 9).

Following the consultation process, a minor administrative amendment has been included in the Step 4A Full Options Appraisal Update and Submit (Ref 10) to provide additional clarification of the scope of the 'no change' which has been extended to definitively include the ILS slope, circling approach and missed approach procedures.

None of the consultation replies required any substantive changes to be made to the ACP.

4 Current Airspace Description

4.1 Structures and routes

This proposal only relates to the publication of two previously published ILS procedures that serve runway 25 at St Athan, by moving the two IFPs from the Mil AIP to the civil UK AIP.

Route structures are unaffected.

4.2 Airspace usage and proposed effect

Airspace usage is unaffected by this proposal.

4.3 Operational efficiency, complexity, delays and choke points

As the ILS procedures were withdrawn when St Athan transferred from MAA oversight to CAA oversight on 31st March 2019, there are currently no instrument approach procedures available at the airport. This forms the baseline operational environment. The purpose of this ACP is to re-establish the status quo.

4.4 Safety issues

It is a key assumption that the previously published (in the Mil AIP) ILS procedures were safe. It is also assumed that, even if they are not well-practiced, commercial pilots landing at St Athan to utilise MRO facilities would be competent to operate VFR. Nevertheless, VFR operations may well be unfamiliar to them which will incur some level of additional risk. Similarly, providing radar vectors to commercial aircraft for a visual approach at St Athan is a non-standard procedure and different to providing vectors to intercept the ILS localiser. Thirdly, the increased unpredictability of large aircraft operating in the Cardiff CTR/CTA, but not flying a published procedure, will also incur some additional risk. Although the level of additional risk associated with the removal of ILS procedures has not been analysed in detail, it will inevitably be greater than approval of the proposal, for which there will be no change and therefore no additional risk.

4.5 Environmental issues

4.5.1 Current Noise Impact for Communities

In 2018 there were 117 MRO movements, of which 69 were arrivals, all of which used the ILS. Over the past 5 years the average number of movements was 96 per annum, consistently representing just 1% of St Athan movements. Clearly any noise impact must be considered, managed and minimised but the number of movements associated with this ACP should be kept in perspective.

Aircraft flying ILS procedures previously published in the Mil AIP would have generated a level of noise on the ground that may have had an impact on local

communities. While a number of flights may have slightly reduced due to the unavailability of an ILS (as evidenced in Ref 4), ultimately the majority of these aircraft have still conducted an approach to St Athan (albeit radar vectored by Cardiff Airport). It could therefore be argued that current noise impact experienced by communities for such a small number of aircraft is unchanged by the re-introduction of the ILS.

4.5.2 Air Quality and Emissions

To maintain continuous descent when flying VFR without ILS glidepath information pilots may need to more frequently alter their engine power settings below 1000 ft (the threshold for air quality measurements) with an associated increase in fuel burn. This may have a potential minor adverse impact on air quality and emissions. Conversely, if the proposal is approved, as there is no change in the track or slope from the procedure published in Mil AIP, aircraft will be flying more predictable approach paths and there will be no change to air quality compared to before the ILS procedure was withdrawn.

5 Statement of Need

5.1 Statement of Need

The following extract is from the DAP1916 Statement of Need form (Ref 1) submitted on 24 May 2018.

Introduction

The Instrument Landing System (ILS) Approach to Runway 25 is currently approved by the MAA, flight checked to CAA Category 1 standards and published in the Military AIP. Following transition to CAA regulation the ILS will be required to be approved by the CAA and published in the UK Civil AIP.

The change to the ILS being published in the UK Civil AIP will require no changes to the ILS procedure, its tracks or usage. There will be no changes to the airspace, currently Class D controlled by Cardiff Approach, and no change to ATC procedures in respect of vectoring.

Airspace

The current airspace, which will not change, is classified Class D and Class G. The approach commences in Class G airspace and enters the Cardiff CTA at 8NM then enters the Cardiff CTR. The Airspace is operated by NATS Cardiff on behalf of the WG under contract with Cardiff Airport. Aerodrome control is provided by SERCO on behalf of WG and the MOD.

Following the transfer of the Aerodrome from MAA regulation to CAA regulation the ownership of the airfield and the airspace will remain the same, but there will be no MOD involvement.

Current Air Traffic Control Situation

Aircraft wishing to fly the ILS at St Athan initially call Cardiff approach and are provided with a radar service and vectors to the ILS. Following the transfer of the Aerodrome from MAA oversight to CAA regulation there will be no changes to the service provided or the tracks flown.

Current Movements and Forecast Growth

There are currently circa 15,000 movements annually of which it is anticipated that only 2% of the traffic will require the ILS.

Current Aircraft movements (circa 15,000 p.a.):

- *MRO (up to B767/A330 – crew only): c. 1% of total (150 p.a.)*
- *GA & UAS: c. 73% of total (10,950 p.a.)*
- *Military: c. 8% of total (1,200 p.a.)*
- *Helicopter (SAR & Police): c. 18% of total (2,700 p.a.)*

The traffic may increase gradually in the future, but the percentage of aircraft using the ILS is not anticipated to increase.

Ongoing Situation and Proposed Change.

The ILS approach at St Athan was designed in 2003, to be approved by the MAA, but using CAA requirements. The procedure was approved by the MAA in March 2018 and the procedure and IAP plate is published in the military AIP. The concept of the approach is as an instrument approach, with the decision height being 507 ft, then followed by a visual landing.

In converting the procedure from MAA to CAA oversight requirements nothing about the procedure or the track or heights flown will change. Also, the aircraft mix and number of approaches as a percentage of the total movements at St Athan will not change. The lead customer for the ILS is the MROs at St Athan providing economic growth and significant employment in the area.

The Need for Change

The Airfield will revert from MAA to CAA licencing on the 1st April 2019 requiring the ILS procedure to be published in the Civil AIP, the WG has identified the necessity for an Airspace Change Process to be followed under the requirements of CAP 1616 to facilitate this change.

There are no additional, safety, operational, technical or economic factors associated with this change.

5.2 Airspace Modernisation Strategy

This ACP does not form part of the plan for delivering the Airspace Modernisation Strategy, and does not conflict with the plan.

6 Proposed Airspace Description

6.1 Objectives / requirements for proposed design

The objective of this proposal is to enable the publication of the existing CAA-approved St Athan ILS procedures, previously published in the Mil AIP, in the UK AIP.

The current airspace (see Annex A3), which will not change, is classified Class D and Class G. The approach commences in Class G airspace and enters the Cardiff CTA at 8NM then enters the Cardiff CTR. The Airspace is operated by NATS Cardiff on behalf of the WG under contract with Cardiff Airport. Aerodrome control is provided by SERCO on behalf of WG.

6.2 Proposed new airspace / route definition and usage

There is no change proposed to airspace, route definition or usage.

7 Engagement and Consultation Overview

7.1 Impacts and Consultation

Engagement activities were completed with stakeholders identified as being most likely to be affected by the proposal.

Aviation Stakeholders included:

- Bristol Airport
- Bristows Helicopters, St Athan
- Caerdav, St Athan
- Cardiff heliport
- Defence Airspace and Air Traffic Management (DAATM), MOD
- eCube, St Athan
- Horizon Flight Training & Aircraft Services, St Athan
- National Air Traffic Services (NATS), Cardiff
- National Police Air Services, St Athan
- Serco, St Athan

Non-Aviation Stakeholders included:

- Cardiff Airport Consultative Committee including:
    - Bridgend County Borough Council
    - Cardiff Council
    - Llancarfan Community Council
    - Vale of Glamorgan Council
    - Vale Tourism Association

The Step 3A Consultation Strategy document (Ref 6) details all of the engagement activities completed prior to the consultation going live.

The consultation on these proposals commenced on 30th September 2019 and was conducted via an online portal where users could view the Consultation Document (Ref 7) and submit a formal response. The consultation portal was open to everyone wishing to comment; including stakeholders and members of the public.

The consultation was open for 4 weeks; closing on Monday 28th October 2019. A total of twenty-one (21) responses were received during this period, these are addressed in the following sections. A full summary of how the consultation was undertaken, together with the consultation responses is provided in the Step 3D Collate and Review Responses (Ref 9).

7.2 Net Impacts Summary

Category	Impact	Evidence
Safety / Complexity	No impact	No change to previously published procedures
Capacity / Delay	No impact	No change to previously published procedures
Fuel efficiency / CO2	No impact	No change to previously published procedures
Noise	No impact	No change to previously published procedures
Tranquillity / Visual intrusion (AONBs & National Parks)	No impact	No change to previously published procedures
Local Air Quality	No impact	No change to previously published procedures
Other Airspace Users	No impact	No change to previously published procedures

Table 2 Net Impacts Summary

7.3 Units affected by the proposal

As part of the process, Serco (St Athan ATC) and NATS (both Cardiff ATC and Bristol Airport ATC) were engaged and consulted as stakeholders. These units are all supportive of the proposal.

The response on behalf of NATS Cardiff noted that circling minima and the Missed Approach Procedure were mentioned. For clarity this document includes a minor amendment to provide additional clarification of the scope of the 'no change' which has been extended to definitively include the ILS slope, circling approach and missed approach procedures.

It should be noted that the Missed Approach is not a published procedure, it relies upon national procedures only i.e. climb straight ahead to 3000 ft (at St Athan this is over the sea) contacting ATC.

There is no published Circling Approach at St Athan.

7.4 Military impact and consultation

DAATM responded to the consultation on behalf of the MOD. Their response was supportive and made no further comments. In addition, the University of Wales Air Squadron (UWAS) responded to the consultation and was very supportive of the proposal.

7.5 Commercial air transport impact and consultation

Responses were received from four airlines and two MROs; these were:

- Airlines:
  - easyJet Airline Company Ltd
  - Scandinavian Airline Systems (SAS)
  - TUI Airways
  - Corendon Dutch Airlines
- MROs:
  - eCube Solutions Ltd
  - Caerdav

All of these responses expressed full support for the proposed changes; containing no suggestions which could impact the final proposal.

7.6 CO2 environmental analysis impact and consultation

The sponsor submitted their proposals regarding environmental impact assessment under a separate cover (Ref 5) to the CAA. This was also detailed in the Step 3A Consultation Strategy (Ref 6).

The sponsor's conclusions were that an environmental impact assessment is impossible; not least because there is currently no environment impact (due to an annual seasonal reduction in traffic levels and more favourable weather conditions).

This analysis undertaken by the sponsor demonstrates that there will be no change to factors such as noise, air quality or CO_2 emissions as a result of the proposal and no change in impact on the environment. Therefore, organisations with a particular interest in the environment were not been targeted for consultation.

The consultation raised no related issues.

7.7 Local environmental impacts and consultation

Step 1B Design Principles (Ref 2) identified that:

Procedures must be designed to minimise aircraft emissions to reduce air pollution; Procedures must be designed to minimise the impact of noise below 7,000ft; Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites; Procedures should be designed to provide respite.

The procedure is based on an ILS approach therefore deviation from the final approach path is not possible. The proposal will not result in any change in aircraft types, numbers, flightpaths or airspace than that previously experienced. The proposal will effect no change relating to noise below 7,000ft, overflight of sensitive areas, track miles flown, fuel burn, emissions, air quality, or in provision of respite. ***No impact.***

The consultation raised no related issues.

7.8 Economic impacts

Step 1B Design Principles (Ref 2) stated that:

Procedures should be designed to enable uninterrupted aviation operations in IMC/IFR in support of wider business objectives.

The proposed change will allow continued uninterrupted IMC/IFR operations by MRO customers into St Athan; providing a significant economic benefit to the wider business objectives of the airport. Without it, reliable access to MRO facilities at St Athan is diminished, potentially reducing the airport's attractiveness as a MRO hub.

MRO operations tend to be seasonal and the companies based at St Athan, [redacted] currently employ 200 personnel peaking during the winter months, when meteorological conditions are more likely to make ILS approaches a necessity rather than a preference. When promoting its MRO facilities, St Athan is in competition with other suppliers in Europe and worldwide and the availability of an ILS procedure is a potentially significant differentiator when airlines make their business decisions. At [Annex 2], [redacted] stress their genuine concern of the reputational damage, both for themselves and the airport, caused by the withdrawal of the ILS procedures. This is echoed by the [redacted] who states [at Annex 3] that the unavailability of ILS procedures could result in a loss of business 'worth millions of pounds'. In economic terms, the success of the proposal would be significant. Such statements directly relate to the requirement for uninterrupted aviation operations in IMC/IFR. ***Positive impact.***

The consultation resulted in positive statements of support for the reintroduction of the ILS without delay.

8 Design Principles

8.1 Design Principles Rationale

Step 1B Design Principles (Ref 2) stated that:

Step 1B requires St Athan to produce a set of design principles that address safety, environmental and operational criteria and policy objectives impacted by the change. Meeting the requirements of Step 1B is achieved by analysis of the previously published ILS procedures against these criteria.

Routinely, design principles are developed through discussions between the change sponsor and those stakeholders who are potentially affected. However, as the analysis [below] demonstrates that the proposed change has no impact on stakeholders nor would they influence the development of Design Principles for an already established procedure, stakeholder engagement has only been conducted with the MRO companies based at St Athan (see Annexes 2 and 3). Further engagement is planned in advance of formal consultation (Stage 3), including with local Air Navigation Service Providers (ANSPs), adjacent airports (Cardiff and Bristol) and the Cardiff Airport Consultative Committee. The latter because the St Athan ILS procedures are almost wholly contained within controlled airspace managed by Cardiff Airport.

8.2 ILS Procedures at St Athan

The objective of this proposal is to enable the publication of the existing CAA-approved St Athan ILS procedures, previously published in the Mil AIP, in the UK AIP.

Step 1B Design Principles (Ref 2) stated that:

The two previously published ILS procedures at St Athan, operated under MAA oversight until 31st March 2019, are:

- *ILS/DME Rwy 25*
- *LOC/DME Rwy 25*

To ensure compatibility with civil requirements, during the design process these procedures were overseen by the CAA Aerodrome Standards and ATC Standards departments. The procedures, shown at Annex A1, were published in the Mil AIP, which has been publicly available since March 2018. As mentioned previously, on 31st March 2019, and in accordance with CAA requirements, the St Athan aerodrome identifier changed from the military EGDX to the civil EGSY.

Each procedure is designed for a straight-in approach along the runway's extended centreline from 12 nautical miles (nm), maintaining a height of 2400 feet Above Mean Sea Level (AMSL) (2270 feet Above Aerodrome) until 7nm from the runway, when a 3-degree descent begins. This provides aircraft with guidance to achieve a stabilised approach to St Athan runway 25.

This approach path is fixed due to ground-based infrastructure and the need to integrate with Cardiff Airport operations. This ACP proposes no change to these procedures.

9 Options Development

9.1 Options Development

Step 2A Options Development (Ref 3) identified that '

'the sole aim of this proposed airspace change is to enable the publication of the previous CAA-approved St Athan ILS procedures, previously published in the Mil AIP, in the UK AIP. Recognising this, the CAA agreed to a scaled ACP submission'.

Step 2A Options Development Ref 3 also stated that:

However, given the limited nature of the proposal, it is argued that there is neither the latitude nor the need to develop conventional multiple Design Principles that would influence the desired solution. No requirement has been identified for variance from the existing ILS procedures and therefore the Design Principles, though assessed in the Step 1B submission (Ref 2) *against a range of operational, technical, environmental and commercial criteria, were inevitably limited. Nevertheless, it is the intention in this Step 2A submission* (Ref 3) *to demonstrate that:*

- *All the possible options have been identified;*
- *The respective options have been evaluated in a fair and consistent manner, and*
- *The design options have been evaluated and are compliant with the required technical criteria.*

In developing the preferred option, the sponsor seeks to reinforce the evidence that the proposal will result in no recognisable change for stakeholders.

This was accepted by the CAA.

Step 2A Options Development (Ref 3) stated in conclusion that:

In accordance with the requirements in paragraph E18 of CAP1616, when measured against best practice guidance, the proposed change is shown to:

- *Be acceptably safe, as there is no substantive change to the existing CAA-approved procedure;*
- *Minimise emissions, noise and the number of people overflown, as there is no change to the track or heights flown by aircraft flying the procedures;*
- *Maintain operational performance and capability, as there is:*
    - *No change to the 'fly-ability' of the procedure*
    - *No change to containment within CAS*
    - *No change to track miles flown*
    - *No changes to ATC procedures*
    - *Predictability of tracks*
    - *No change in the probability of vectoring by ATC.*

10 Analysis / Impact of Options

10.1 Analysis of Options

Step 3A Full Options Appraisal (Ref 8) identified that the sole aim of this proposal is to enable the publication of the existing CAA-approved St Athan ILS procedures, previously published in the Mil AIP, in the UK AIP. The proposal does not alter traffic patterns below 7,000 feet. The primary users of ILS procedures are commercial aircraft arriving to use St Athan's Maintenance Repair and Overhaul (MRO) facilities. Although they comprise only around 1% of St Athan's annual movements, aircraft for MRO have a disproportionately positive economic impact on the airport and the surrounding area of South Wales.

Five potential options to address the removal of the St Athan ILS procedures from the Mil AIP have been considered and no radical options were identified

10.1.1 Permanently withdraw the ILS

The permanent withdrawal of the ILS procedures, recognised in this appraisal as the 'do nothing' option, is discounted because it does not meet the SoN and is considered disproportionate. The ILS equipment remains serviceable and, when published in the UK AIP, would be available to all operators at St Athan, most importantly MRO customers. If withdrawn permanently, St Athan would have no instrument approach procedures. MRO customers have indicated that they would be less likely to operate to St Athan if it were a VFR-only airport, because of the increased risk of aircraft being diverted and the additional requirement for exemptions from their AOC holder for visual-only approaches. For example, TUI stated that, "when flying to an airport with no instrument approach, such as St Athan, we require the authorisation of the AOC holder (Director of flight operations, or their nominated deputy)".

Although non-compliant, as the worst case scenario, the 'do nothing' option has been taken forward purely for comparative purposes.

10.1.2 Introduce RNAV procedure instead of ILS through a full Level 1 airspace change application

The introduction of RNAV procedures instead of ILS was considered but rejected because the ILS is already in situ and the introduction of RNAV procedures would involve a lengthy, expensive change application that the sponsor considers would be disproportionate. RNAV procedures would necessitate a change in aircraft heights and tracks over the ground and have a potentially significant impact on all stakeholders. In addition, aircraft being delivered to St Athan for recycling may not be able to fly RNAV approaches and end-of-lease aircraft often need to use the ILS for flight test and demonstration flights.

This option is considered disproportionate, does not fulfil the SoN, introduces new project issues and risks and changes the environmental impact; it has not been taken forward.

10.1.3 Publish the ILS procedures in the UK AIP as a Level 0 change

This option has been discounted by the CAA as the proposal is greater than a change in nomenclature to the UK AIP.

This option has not been taken forward.

10.1.4 Publish the ILS procedures in the UK AIP following a full, conventional Level 1 CAP 1616 process

This option was discounted as it would be too lengthy, costly and disproportionate in meeting the SoN. The sponsor would have difficulty justifying the expenditure to conduct a full application as there is no change to the procedures.

The CAA has agreed to a scaled approach for the proposal and assessed the change as Level 2C.

10.1.5 Publish the ILS procedures in the UK AIP following a scaled, proportionate and accelerated application of CAP 1616

Publish the ILS procedures in the UK AIP following a scaled, proportionate and accelerated application of CAP 1616.

This is the sponsor's preferred option and the approach has been agreed by the CAA in its assessment that this is a Level 2C change.

11 Airspace Description Requirements

11.1 Description of Airspace Requirements

Serial	A full description of the proposed change including the following:	Description for this proposal
A	The type of route or structure; for example, airway, UAR, Conditional Route, Advisory Route, CTR, SIDs/STARs, holding patterns, etc	No change – ILS procedure
B	The type of route or structure; for example, airway, UAR, Conditional Route, Advisory Route, CTR, SIDs/STARs, holding patterns, etc	No change – 0900-1700 (0800-1600)
C	Interaction with domestic and international en-route structures, TMAs or CTAs with an explanation of how connectivity is to be achieved. Connectivity to aerodromes not connected to CAS should be covered	No change. ATC provided by NATS Cardiff
D	Airspace buffer requirements (if any). Where applicable describe how the CAA policy statement on 'Special Use Airspace – Safety Buffer Policy for Airspace Design Purposes' has been applied.	Not applicable
E	Supporting information on traffic data including statistics and forecasts for the various categories of aircraft movements (passenger, freight, test and training, aero club, other) and terminal passenger numbers	No change. Statistics for aircraft movements numbers and types and analysed in Step 3A full Options Appraisal (Ref 8)
F	Analysis of the impact of the traffic mix on complexity and workload of operations	No change
G	Evidence of relevant draft Letters of Agreement, including any arising out of consultation and/or airspace management requirements	No change
H	Evidence that the airspace design is compliant with ICAO Standards and Recommended Practices (SARPs) and any other UK policy or filed differences, and UK policy on the Flexible Use of Airspace (or evidence of mitigation where it is not)	A detailed assessment of the procedures has been conducted against Pans-Ops Doc 8168 and UK CAA requirements
I	The proposed airspace classification with justification for that classification	No change
J	Demonstration of commitment to provide airspace users equitable access to the airspace as per the classification and where necessary indicate resources to be applied or a commitment to provide them in line	Not change

Serial	A full description of the proposed change including the following:	Description for this proposal
	with forecast traffic growth. 'Management by exclusion' would not be acceptable	
K	Details of and justification for any delegation of ATS	Not applicable

Table 3 Airspace Description Requirements

12 Safety Assessment

12.1 Safety Assessment

This ACP is predicated on the replication of the two IFPs previously published in the Mil AIP and produced to CAA standards.

As detailed in Step 3A Full Options Appraisal (Ref 8) the proposal makes no changes to ATC or aircraft procedures, therefore it is accepted that there are no safety impacts associated with it.

13 Operational Impact

13.1 Operational Impact

Serial	An analysis of the impact of the change on all airspace users, airfields and traffic levels must be provided, and include an outline concept of operations describing how operations within the new airspace will be managed. Specifically, consideration should be given to:	Evidence of compliance/ proposed mitigation
A	Impact on IFR general air traffic and operational air traffic or on VFR General Aviation (GA) traffic flow in or through the area	No impact – within Cardiff CTA
B	Impact on VFR operations (including VFR routes where applicable);	No impact – within Cardiff CTA
C	Consequential effects on procedures and capacity, i.e. on SIDs, STARs, and/or holding patterns. Details of existing or planned routes and holds	No impact – previous IFPs replicated unchanged
D	Impact on aerodromes and other specific activities within or adjacent to the proposed airspace	No impact – previous IFPs replicated unchanged
E	Any flight planning restrictions and/or route requirements	None

Table 4 Operational Impact

14 Supporting Infrastructure / Resources

14.1 Supporting Infrastructure / Resources

Serial	General Requirements	Evidence of compliance/ proposed mitigation
A	Evidence to support RNAV and conventional navigation as appropriate with details of planned availability and contingency procedures	Not applicable – no change
B	Evidence to support primary and secondary surveillance radar (SSR) with details of planned availability and contingency procedures	Not applicable
C	Evidence of communications infrastructure including R/T coverage, with availability and contingency procedures	No change
D	The effects of failure of equipment, procedures and/or personnel with respect to the overall management of the airspace must be considered	No change
E	Effective responses to the failure modes that will enable the functions associated with airspace to be carried out including details of navigation aid coverage, unit personnel levels, separation standards and the design of the airspace in respect of existing international standards or guidance material	No change
F	A clear statement on SSR code assignment requirements	Not applicable – no change
G	Evidence of sufficient numbers of suitably qualified staff required to provide air traffic services following the implementation of a change	No change

Table 5 Supporting Infrastructure / Resources

15 Airspace and Infrastructure Requirements

15.1 Airspace and Infrastructure Requirements

Serial	General Requirements	Evidence of compliance/ proposed mitigation
A	The airspace structure must be of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to fully contain horizontal and vertical flight activity in both radar and non-radar environments	No change
B	Where an additional airspace structure is required for radar control purposes, the dimensions shall be such that radar control manoeuvres can be contained within the structure, allowing a safety buffer. This safety buffer shall be in accordance with agreed parameters as set down in CAA policy statement 'Safety Buffer Policy for Airspace Design Purposes Segregated Airspace'. Describe how the safety buffer is applied, show how the safety buffer is portrayed to the relevant parties, and provide the required agreements between the relevant ANSPs/ airspace users detailing procedures on how the airspace will be used. This may be in the form of Letters of Agreement with the appropriate level of diagrammatic explanatory detail.	No change
C	The Air Traffic Management system must be adequate to ensure that prescribed separation can be maintained between aircraft within the airspace structure and safe management of interfaces with other airspace structures	No change
D	Air traffic control procedures are to ensure required separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures	No change
E	Within the constraints of safety and efficiency, the airspace classification should permit access to as many classes of user as practicable	No change

Serial	General Requirements	Evidence of compliance/ proposed mitigation
F	There must be assurance, as far as practicable, against unauthorised incursions. This is usually done through the classification and promulgation	No change
G	Pilots shall be notified of any failure of navigational facilities and of any suitable alternative facilities available and the method of identifying failure and notification should be specified	No change
H	The notification of the implementation of new airspace structures or withdrawal of redundant airspace structures shall be adequate to allow interested parties sufficient time to comply with user requirements. This is normally done through the AIRAC cycle	Publish 2 x ILS IFPs in UK AIP entry for St Athan via AIRAC cycle
I	There must be sufficient R/T coverage to support the Air Traffic Management system within the totality of proposed controlled airspace	No change
J	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, the need for operating agreements shall be considered	No change
K	Should there be any other aviation activity (low flying, gliding, parachuting, microlight site, etc) in the vicinity of the new airspace structure and no suitable operating agreements or air traffic control procedures can be devised, the change sponsor shall act to resolve any conflicting interests	No change – not applicable

Table 6 Airspace and Infrastructure Requirements

Serial	ATS route requirements	Evidence of compliance/ proposed mitigation
A	There must be sufficient accurate navigational guidance based on in-line VOR/DME or NDB or by approved RNAV derived sources, to contain the aircraft within the route to the published RNP value in accordance with ICAO/Eurocontrol standards	No change
B	Where ATS routes adjoin terminal airspace there shall be suitable link routes as necessary for the ATM task	Not applicable

Serial	ATS route requirements	Evidence of compliance/ proposed mitigation
C	All new routes should be designed to accommodate P-RNAV navigational requirements	Not applicable

Table 7 ATS Route Requirements

Serial	Terminal airspace requirements	Evidence of compliance/ proposed mitigation
A	The airspace structure shall be of sufficient dimensions to contain appropriate procedures, holding patterns and their associated protected areas	No change
B	There shall be effective integration of departure and arrival routes associated with the airspace structure and linking to designated runways and published instrument approach procedures (IAPs)	No change
C	Where possible, there shall be suitable linking routes between the proposed terminal airspace and existing en-route airspace structure	No change
D	The airspace structure shall be designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace	No change
E	Suitable arrangements for the control of all classes of aircraft (including transits) operating within or adjacent to the airspace in question, in all meteorological conditions and under all flight rules, shall be in place or will be put into effect by the change sponsor upon implementation of the change in question (if these do not already exist)	No change
F	The change sponsor shall ensure that sufficient visual reference points are established within or adjacent to the subject airspace to facilitate the effective integration of VFR arrivals, departures and transits of the airspace with IFR traffic	No change
G	There shall be suitable availability of radar control facilities	No change

Serial	Terminal airspace requirements	Evidence of compliance/ proposed mitigation
H	The change sponsor shall, upon implementation of any airspace change, devise the means of gathering (if these do not already exist) and of maintaining statistics on the number of aircraft transiting the airspace in question. Similarly, the change sponsor shall maintain records on the numbers of aircraft refused permission to transit the airspace in question, and the reasons why. The change sponsor should note that such records would enable ATS managers to plan staffing requirements necessary to effectively manage the airspace under their control	No change
I	All new procedures should, wherever possible, incorporate Continuous Descent Approach (CDA) profiles after aircraft leave the holding facility associated with that procedure	No change – not within scope

Table 8 Terminal Airspace Requirements

Serial	Off-route airspace requirements	Evidence of compliance/ proposed mitigation
A	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, the need for operating agreements shall be considered	No change
B	Should there be any other aviation activity (military low flying, gliding, parachuting, microlight site etc) in the vicinity of the new airspace structure and no suitable operating agreements or air traffic control procedures can be devised, the change sponsor shall act to resolve any conflicting interests	No change – not applicable

Table 9 Off-route Airspace Requirements

16 Environmental Requirements

16.1 Environmental analysis

As detailed in Step 3A Consultation Strategy (Ref 6) the CAA accepted that, in the specific set of circumstances relevant to this proposal, environmental analysis was impossible.

Serial	Item	Topic	Evidence / Remarks
A	WebTAG analysis	Output and conclusions of the analysis (if not already provided elsewhere in the proposal)	Not applicable
B	Assessment of noise impacts (Level 1/M1 proposals only)	Consideration of noise impacts, and where appropriate the related qualitative and/or quantitative analysis, including whether the anticipated noise impact meets the criteria for a proposal to be called-in by the Secretary of State (paragraph 5(c) of Direction 6 of the Air Navigation Directions 2017) If the change sponsor expects that there will be no noise impacts, the rationale must be explained	Not applicable
C	Assessment of CO2 emissions	Consideration of the impacts on CO2 emissions, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no impact on CO2 emissions impacts, the rationale must be explained	See Step 4A Update and Submit (Ref 10)
D	Assessment of local air quality (Level 1/M1 proposals only)	Assessment of local air quality (Level 1/M1 proposals only)	Not applicable
E	Assessment of impacts upon tranquillity (Level 1/M1	Consideration of any impact upon tranquillity, notably on Areas of Outstanding Natural Beauty or National Parks, and where	Not applicable

Serial	Item	Topic	Evidence / Remarks
	proposals only)	appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no tranquillity impacts, the rationale must be explained	
F	Operational diagrams	Any operational diagrams that have been used in the consultation to illustrate and aid understanding of environmental impacts must be provided	See Annex A3
G	Traffic forecasts	10-year traffic forecasts, from the anticipated date of implementation, must be provided (if not already provided elsewhere in the proposal)	See Step 4A Update and Submit (Ref 10)
H	Summary of environmental impacts and conclusions	A summary of all of the environmental impacts detailed above plus the change sponsor's conclusions on those impacts	See Step 4A Update and Submit (Ref 10)

Table 10 Environmental Assessment proforma

A1 Draft AIP Information

A1.1 Draft AIP Information

Draft AIP Information, in the form of two draft Instrument Approach Procedures, ILS and LOC, replicating the previously extant procedures published in the Mil AIP, will be submitted to the CAA IFP team by 31st October 2019.

A2 Supporting Evidence

A2.1 Supporting Evidence

No additional supporting evidence

A3 Existing Airspace

A3.1 Cardiff Control Zone and Control Area Chart

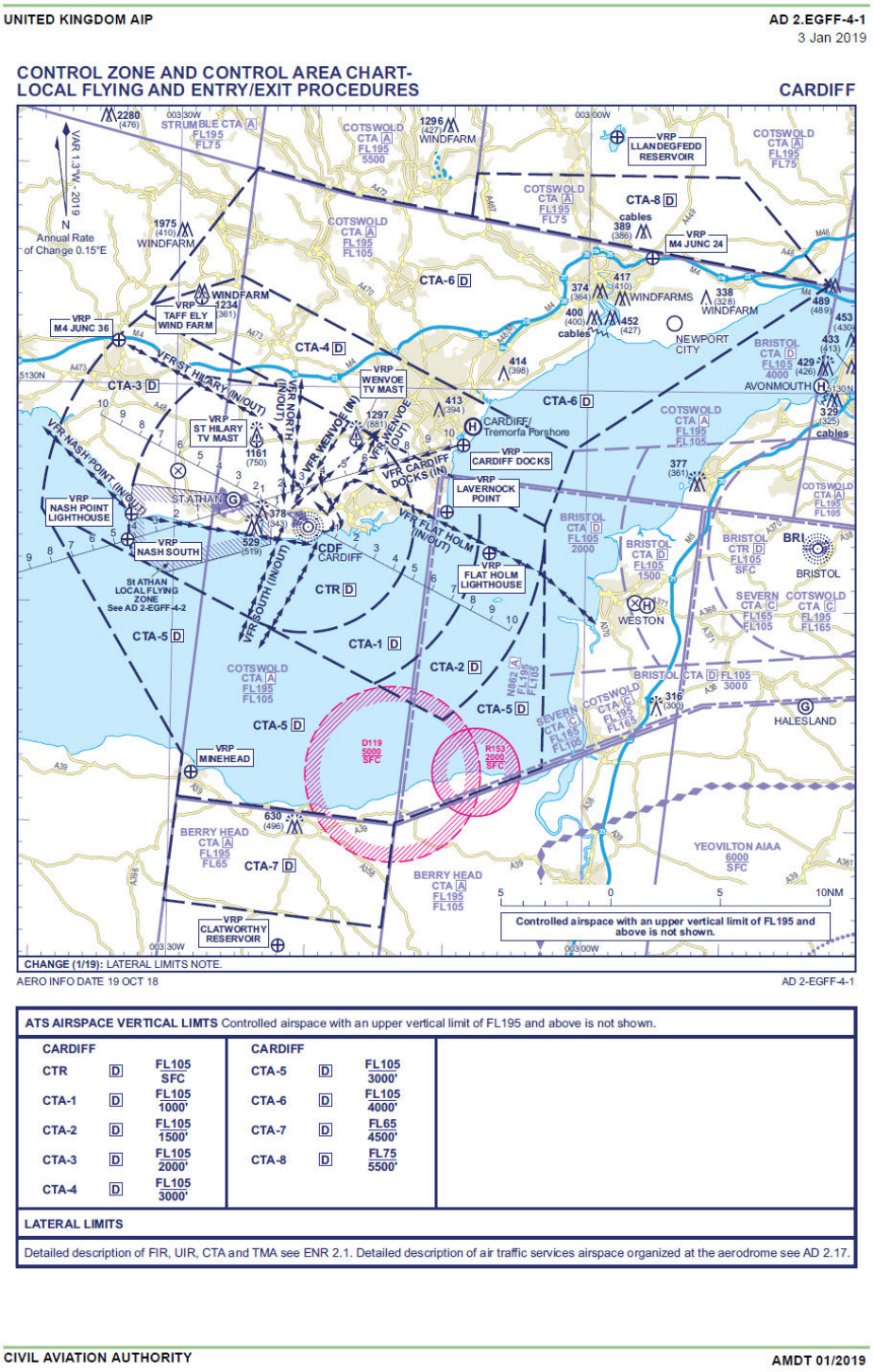

Figure 1 Cardiff Control Zone and Control Area Chart

A3.2 ILS/DME Rwy 25 (UK Mil AIP)

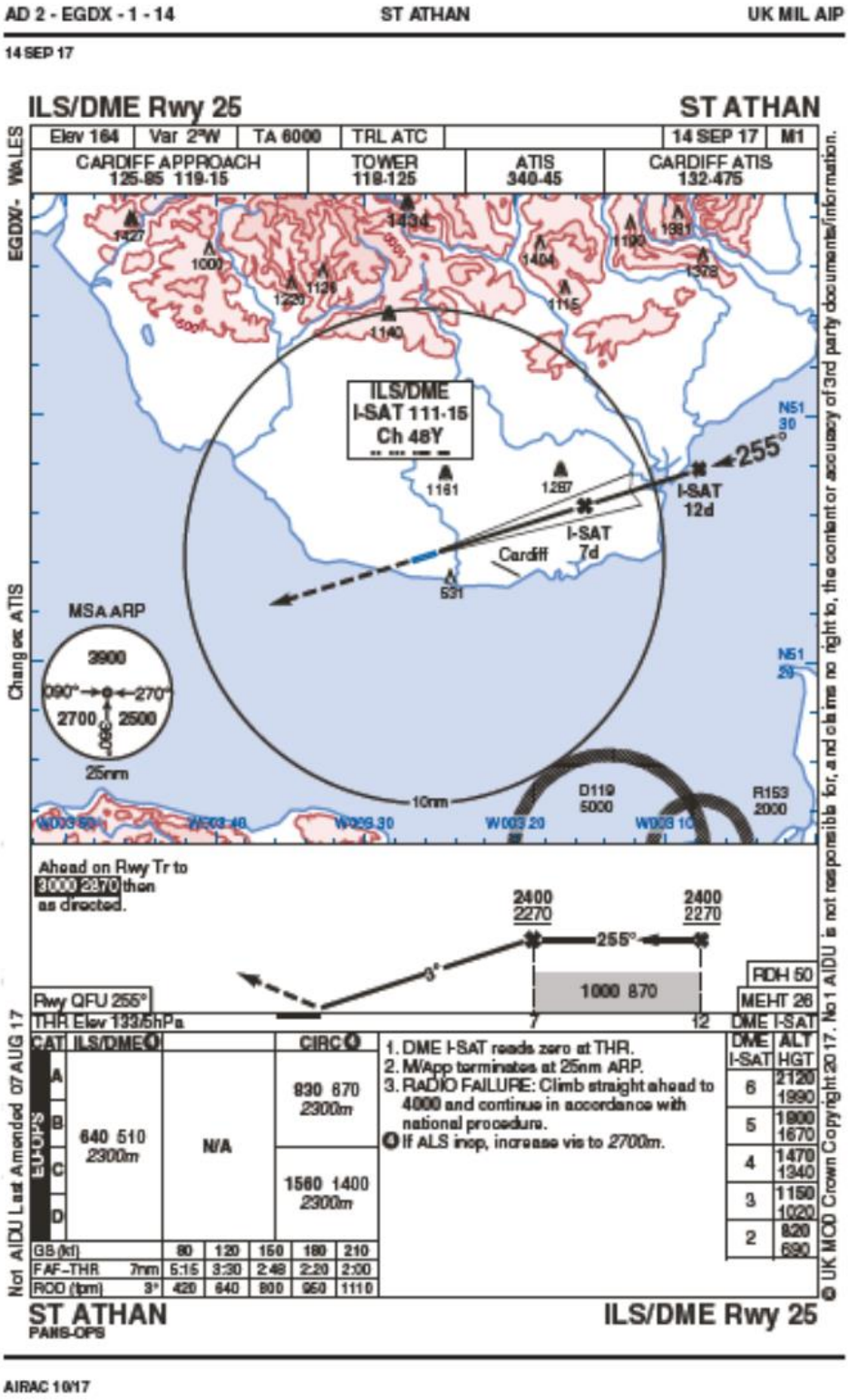

Figure 2 ILS/DME Rwy 25 (UK Mil AIP)

A3.3 LOC/DME Rwy 25 (UK Mil AIP)

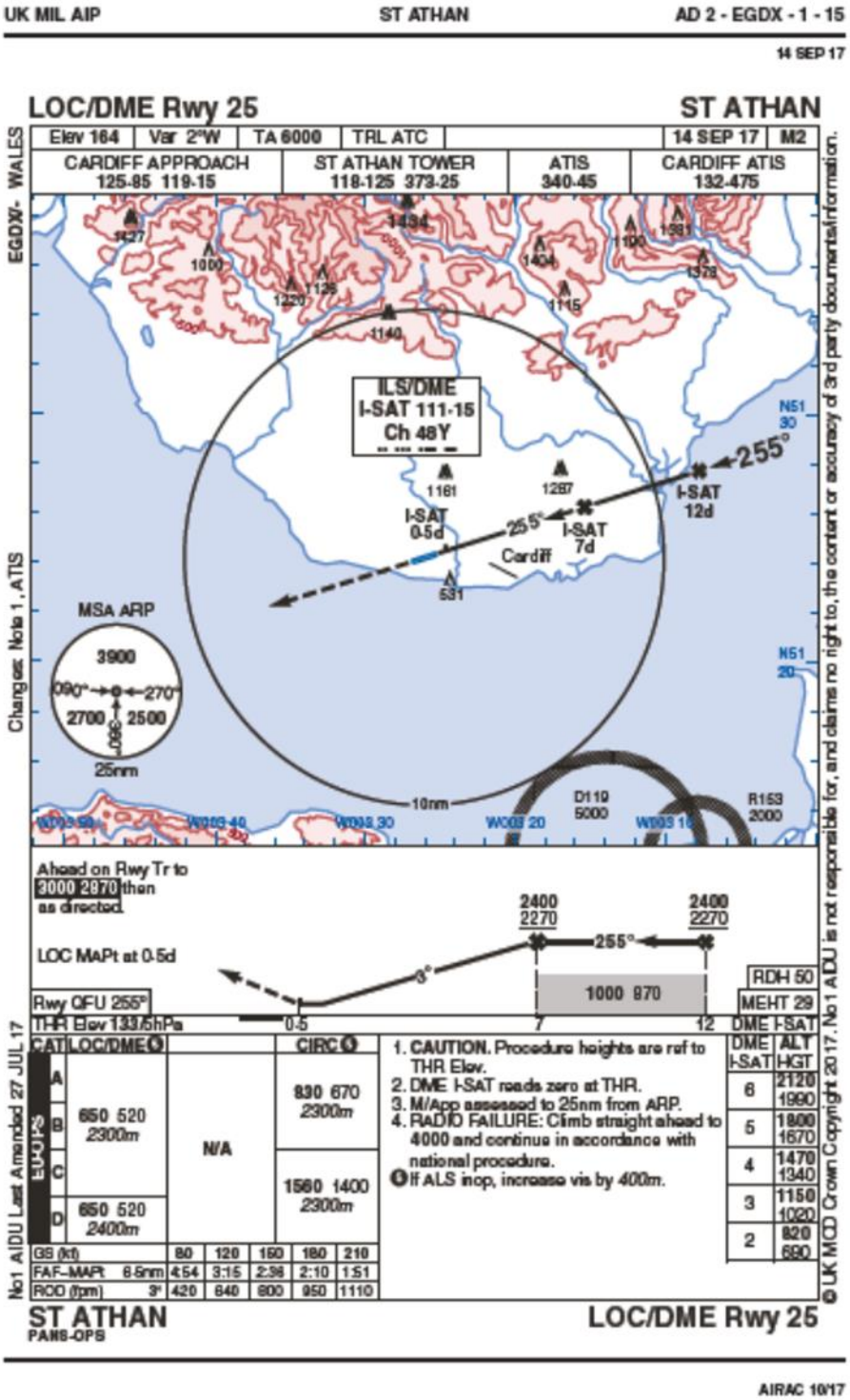

Figure 3 LOC/DME Rwy 25 (UK Mil AIP)

A4 Consultation Report

A4.1 Consultation report

The Consultation responses are detailed in Step 3D Collate and Review Responses document (Ref 9).

A5 Environmental Analysis

A5.1 Environmental analysis

As detailed in Step 3A Consultation Strategy (Ref 6) the CAA accepted that, in the specific set of circumstances relevant to this proposal, environmental analysis was impossible.

A6 Options Appraisal

A6.1 Options Appraisal

The Final Options Appraisal is detailed in Step 4A Final Options Appraisal Update and Submit (Ref 10).

A7 ACP Aeronautical Data Template

A7.1 ACP Aeronautical Data Template

Not applicable.

The two previously published (in the Mil AIP) ILS IFPs, replicated by a CAA approved IFP design organisation (gCap) to civil publication requirements, will be submitted to the CAA IFP team for scrutiny prior to inclusion in the UK AIP.