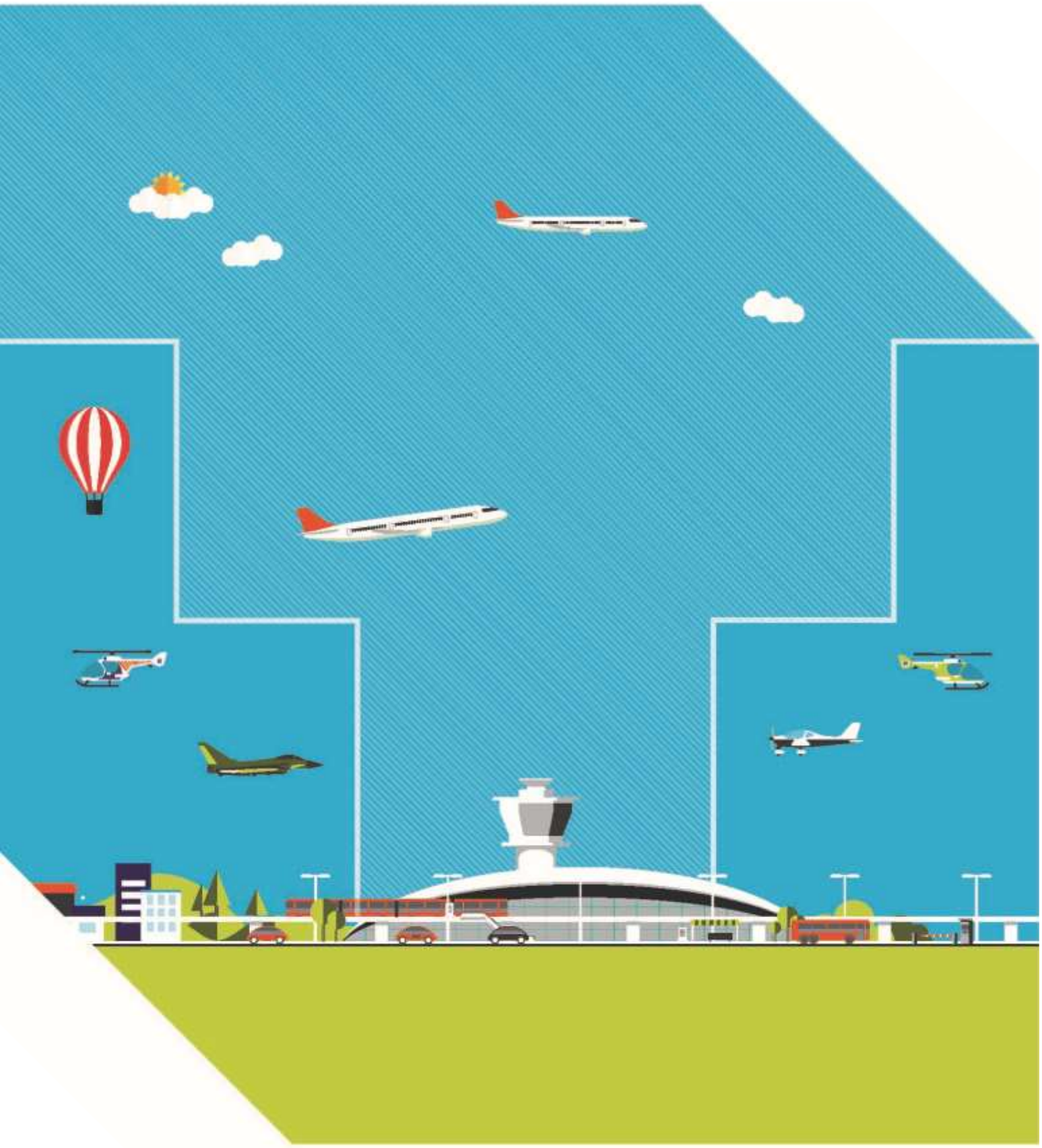
UK Civil Aviation Authority

Airspace Change Process for GNSS Instrument Approach Procedures (IAPs) without an Approach Control Service

CAP 1961



Published by the Civil Aviation Authority, 2020

Civil Aviation Authority
Aviation House
Beehive Ring Road
Crawley
West Sussex
RH6 0YR

First published 28 August 2020

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

The latest version of this document is available in electronic format at: www.caa.co.uk/CAP1961

Contents

Scope

In the 2019 Amendment to The Civil Aviation Authority (Air Navigation) Directions 2017, the Secretary of State for Transport directed the CAA to develop and publish a procedure for considering proposals involving the implementation of a GNSS approach to an aerodrome without an approach control service.

The purpose of this supplement is to set out the Civil Aviation Authority's (CAA) policy and guidance relating to the Airspace Change Process for a permanent change to airspace design involving the implementation of GNSS IAPs Without an Approach Control Service (WAC).

This supplement will not apply to Airspace Change Proposals that include other types of proposal (such as an amendment to controlled airspace, introduction of RMZ/TMZ etc.) that also include the establishment of GNSS IAPs (WAC).

The CAA will consider the establishment of GNSS IAPs (WAC) at EASA certificated aerodromes or national licensed aerodromes at which an Air Traffic Control service (ATC), Aerodrome Flight Information Service (AFIS) is provided or Air/Ground Communication (AGC) is available.

Definition and Meaning of a GNSS IAP (WAC)

RNAV (GNSS) approach: A GNSS RNAV approach promulgated by a State and designed in accordance with PANS-OPS Criteria ICAO Doc 8168.

Article 183(b) of the Air Navigation Order 2016 requires that aerodromes for which there is equipment for providing aid for holding, let-down or for an approach to landing (by radio or radar), provide an approach control service.

This supplement is aimed at those aerodromes that would need to gain an exemption from Article 183(b) to introduce an IAP.

Introduction of GNSS IAPs (WAC)

The introduction of GNSS IAPs (WAC) will be progressed as a scaled Level 1 Airspace Change Proposal in accordance with CAP1616 Airspace Design: guidance on the regulatory process for changing airspace design including community engagement requirements, using CAA form DAP1916 - The Statement of Need - and following the process described below.

In accordance with the underlying policy for any proposed changes to the UK airspace, the introduction of any IAP is subject to the CAA's assessment that it will be to the overall benefit of the UK aviation community. This assessment will take into account the type and level of activity at an aerodrome as well as the needs of other airspace users and neighbouring aerodromes.

The CAA will consider the establishment of GNSS IAPs (WAC) at EASA certificated aerodromes or national licensed aerodromes at which an Air Traffic Control service (ATC), Aerodrome Flight Information Service (AFIS) is provided or Air/Ground Communication (AGC) is available.

Airspace Change Process for establishing GNSS IAPs without an Approach Control Service (WAC)

Stage 1

The change sponsor must submit a Statement of Need DAP 1916 form - to notify the CAA that it wishes to commence the Airspace Change Process. The Statement of Need should indicate that the change sponsor wishes to introduce a GNSS IAP and the reasons for this (the "need") e.g. to enable aircraft to land at the aerodrome in certain meteorological conditions. Table A1 in CAP 1616 (page 141) provides guidance on what to include in the Statement of Need.

As the specific solution to the airspace issue (GNSS IAP) is already known, the principles that should inform the design options are detailed in this guidance at Stage 2. As the requirement for these ACPs comes from the Secretary of State's Directions to the CAA that these types of IAP should be expanded, where appropriate, at UK Aerodromes, the remainder of Stage 1 CAP1616 process (Assess Requirement and Design Principles), including the Gateway Assessment, is not required.

The CAA will review the Statement of Need to determine that the proposal should follow this process and contact the change sponsor to arrange an Assessment Meeting and agree timescales. Sponsor should provide the CAA with an outline of what sort of engagement activity they anticipate as part of the process (see Stage 3) so some additional advice and guidance can be provided at an early stage where required.

Sponsors will be provided with the ATM Safety Questionnaire which also includes guidance on ATM matters to assist sponsors when developing their proposal. The assigned ATS Inspector should be present at the Assessment Meeting to provide any initial information relating to the ATM elements of the proposal.

Output from Stage 1

- Completed Statement of Need
- Determination from the CAA that the proposal should follow this process and can move to Stage 2.
- Assessment Meeting (via email/teleconference if appropriate) to discuss process with Airspace Regulation, as well as the change sponsor's proposed timeline of activities to be completed, including ATM Safety Questionnaire, engagement activities, IFP design, submission of proposal and anticipated implementation date. Sponsor to provide the agenda and record minutes of the meeting.
- Airspace Regulation to assess proposed timeline and confirm with sponsor.

Stage 2

Stage 2 of CAP 1616 ensures the change sponsor assesses all appropriate options that address the Statement of Need. It is recognised that the options associated with the implementation of a GNSS IAP (WAC) are very limited. For this reason, there is no requirement for change sponsors' own Design Principles to be developed at Stage 1. However, change sponsors must produce an assessment of any options considered against the following Design Principles:

- The proposal must maintain a high level of safety
- The proposal should avoid overflight of densely populated areas where possible[1]

Whilst the change sponsor **must** include these two design principles, they *should* also include other design principles that reflect local considerations or impacts to other airspace users so that they are considered as part of the design process. The development of these design principles can be undertaken by the change sponsor without additional engagement.

The change sponsor should engage with an Approved Procedure Design Organisation (APDO) to understand the potential design options in the context of the circumstances at the aerodrome (for example, obstacles, nearby airspace structures as well as environmental considerations).

Guidance from the Secretary of State to the CAA recognises that the CAA must consider the environmental impact of a proposal before making a decision but that the Air Navigation Guidance 2017 does not apply to these types of proposal.

The change sponsor should consider the environmental impact of any potential design option (for example, the design of the track over the ground or restrictions on the number of aircraft that can use the procedure on a given day).

When considering the impact, the change sponsor should set out the change that is anticipated from the introduction of the proposed IAPs along with any supporting evidence. This should include the anticipated change in the number of aircraft using the aerodrome, the change in the type of aircraft using the aerodrome, changes to the altitude of aircraft using the procedure and the change to areas overflown by the introduction of the IAPs.

No further environmental assessment will be necessary if:

- the change sponsor can reasonably demonstrate that the introduction of the GNSS IAP is not expected to increase the total number of aircraft movements at the aerodrome in the first two years after introduction, by 10% or more (by at least a minimum of 3,650 movements per year), and;

[1] This is in line with the government's policy to limit and, where possible, reduce the number of people in the UK adversely affected by aircraft noise and the impacts on health and quality of life associated with it.

- the proposal does not change the final approach path of aircraft to the runway within 1nm from the runway end, and;
- the proposal will not change the environmental impact of aircraft utilising other aerodromes

Even for the larger GA aerodromes, the population exposed to noise above 51dB LAeq16h seldom exceeds 750 people. Therefore a 10% increase in traffic which may lead to around a 10% increase in the number of people exposed, or a maximum increase of 10 movements per day, is an appropriate threshold below which the overall noise impact is likely to be low. This means that undertaking a full environmental assessment as detailed in CAP 1616 for Level 1 changes, is unnecessary.

If the proposal does not meet the criteria detailed above, additional proportionate environmental assessment may be required. The Airspace Regulator assigned to the ACP will provide guidance on any additional requirements.

In addition to the design of any procedure's track in space, the way in which the change sponsor will operate the procedures will also determine the impact on other airspace users, so the change sponsor will need to develop their operational concept and complete the CAA's ATM Safety Questionnaire. The review and associated feedback of this Questionnaire allows the change sponsor to continue to develop their final Safety Case for the operation of the procedures, which will need to be agreed to enable the CAA to provide an exemption from Article 183(b) of the Air Navigation Order 2016.

Once the change sponsor has assessed the potential procedure design options and the CAA has reviewed the ATM Safety Questionnaire, the change sponsor can engage with affected stakeholders to gather information and to understand views about the potential impact of their proposals.

The Stage 2 Gateway of the full CAP1616 process is not required.

Output from Stage 2

- An assessment of each proposed option (a single option is acceptable with supporting justification) with information as to why it is being considered as a potential option. This information should include qualitative statements on the:
  - Impact on safety (guidance in para E50 of CAP 1616)
  - Environmental impact
  - Economic impact (Relevant parts of Table E2 of CAP 1616)
  - Impacts (positive and negative) on airspace users
- Confirmation that the ATM Safety Questionnaire has been reviewed.
- Feedback from APDO on design options that are to be included in engagement materials (the design options do not need to have been formally approved at this

stage but should be able to provide stakeholders with enough information on the likely track and altitude to enable meaningful feedback).

- A description of any options that have been considered but are **not** being proposed and the reasons why they are not being proposed.
- Additional environmental assessment, if required
- Determination from the CAA that the proposal can move to Stage 3

Stage 3

Given that the introduction of GNSS IAPs (WAC) are likely to impact a relatively low number of stakeholders, formal consultation will not be necessary if the proposal has not triggered an additional environmental assessment. The change sponsor should be able to demonstrate that through targeted engagement activity, relevant stakeholders' views have been considered and taken into account as part of the final proposal.

At this point, the change sponsor will provide an engagement strategy setting out:

- which stakeholders they plan to engage and how they were identified
- how they plan to engage with those stakeholders (change sponsors should consider how their APDO might be involved in engagement with relevant stakeholders)
- what materials will be used to support the engagement activities
- and the timescale over which they intend to engage and the rationale for this duration.

The engagement material should include the following information developed in Stage 2:

- An assessment of each proposed option with information as to why it is being considered as a potential option. This information should include qualitative statements on the:
    - Impact on safety (guidance in para E50 of CAP 1616)
    - Environmental impact
    - Economic impact
    - Positive and negative impact on airspace users
- A description of options that have been considered but are not being proposed and the reasons why they are not being proposed

The material should also include information about the operational concept, developed as part of the ATM questionnaire. Guidance on developing engagement material can be found in CAP 1616, P170, Paras C6-C10.

Stage 3 Engagement Activity

If the CAA is satisfied that the relevant process requirements and guidance have been followed, it will agree progress to the next stage in the process at which point the change sponsor can begin to execute their engagement strategy.

Stage 4

If additional development of the procedure design or operation is required in light of stakeholder feedback, there may be a requirement to undertake additional engagement activities. Once all engagement has been satisfactorily completed, the change sponsor will produce an Engagement Summary Report which sets out a summary of the feedback received through their engagement activities as well as a description of how this has affected the final design (if it has). The change sponsor will then finalise the procedure design with their APDO and complete their Safety Case, before submitting the final proposal to the CAA in accordance with Step 4B and the structure and relevant proformas in Appendix F of CAP 1616. The change sponsor must also upload an appropriately redacted version of their proposal to the Airspace Portal.

What needs to be submitted to complete Stage 4:

- Final ACP Document (Template in Appendix F of CAP 1616 - only relevant sections are required).
- All engagement activity correspondence and documentation sent and received, including redacted versions for the ACP Portal.
- Final IFP Design package from APDO, which must reflect any relevant information in the Final ACP Document
- Safety Case.

Stage 5

The CAA will undertake Stage 5 as described in CAP 1616 except that there will be no public evidence session and no draft decision will be published, given the anticipated limited impact of these types of proposal.

Stage 6

Implementation will occur through the submission of the procedures to AIS on an agreed AIRAC cycle.

Stage 7

A post implementation review (PIR) will usually take place 12 months after the implementation of the IAP(s). The requirements of any PIR will be detailed in the ACP Decision.

APPENDIX A

Abbreviations

Abbreviations	
ACP	Airspace Change Proposal
AFIS	Aerodrome Flight Information Service
AGC	Air/Ground Communication
APDO	Approved Procedure Design Organisation
ATC	Air Traffic Control
ATM	Air Traffic Management
ATS	Air Traffic Service
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
EASA	European Aviation Safety Agency
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure
ICAO	International Civil Aviation Organization
IFP	Instrument Flight Procedure
Nm	Nautical mile
PIR	Post-implementation Review
RMZ	Radio Mandatory Zone
RNAV	Area Navigation
TMZ	Transponder Mandatory Zone