

Sywell Aerodrome RNAV GNSS Instrument Approach Procedures

CAP 1866



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Executive summary

Objective of the Proposal

To introduce RNAV GNSS Instrument Approach Procedures to both runway ends at Sywell Aerodrome in Northamptonshire.

Summary of the decision made

1. Subject to the condition set out in the Regulatory Decision section of this document the CAA decided to approve the following changes on Friday 28 November 2019:

The introduction of RNAV GNSS Instrument Approach Procedures (IAPs) to both runway ends at Sywell Aerodrome in Northamptonshire.

This document sets out more detail on that decision and the reasons for it. Since the date of the decision, the condition was met (on 2 December 2019)

Next steps

2. The sponsor was required to meet the condition attached to this approval. However as set out above this condition has since been met.
3. The CAA's Post Implementation Review (PIR) of the changes approved by the CAA in this decision will commence approximately one year after implementation of those changes. It is a requirement of the CAA's approval that the sponsor collects data required by the CAA throughout the year following implementation to carry out that PIR.
4. The sponsor is required to:
 - a) Provide detail on the volume of traffic and the aircraft types utilising the new procedures

- b) Provide all feedback received from airspace users
- c) Collate related stakeholder observations (enquiry/complaint data) and present it to the CAA. Any location/area from where more than 10 individuals have made enquiries/complaints must be plotted on separate maps displaying an overlay of the procedures.

Decision Process and Analysis

Aims and Objectives of the Proposed Change

- 5. In the sponsors airspace change proposal, they have detailed the aims and objectives as follows:
 - a. “To safely make the aerodrome more reliably accessible during periods of reduced cloud ceiling and or visibility for our based commercial operators and corporate visitors.”
 - b. “The introduction of Instrument Approach Procedures should have a marginally lower or no measurably worse an environmental impact than current operations.

Framework Briefing

- 6. The Framework Briefing took place on 16 February 2017.
- 7. The sponsor set out the reasons for the proposal that based operators would have more certainty of returning to the aerodrome in the case of low cloud ceiling or low visibility conditions. This would reduce the number of diversions to other aerodromes in such conditions.
- 8. The sponsor indicated their intention to design in accordance with PANS-OPS Doc 8168 VII (the relevant European design requirements) and discussed the technical aspects of the procedures.

9. The sponsor confirmed that their preference would be to include feathered arrows on the relevant VFR charts to indicate the presence of IAPs at the aerodrome.
10. The CAA accepted the sponsors preliminary view that the proposals were likely to be low impact from an environmental and airspace user perspective, given the uncongested airspace and low numbers of aircraft likely to use the procedures.
11. As a consequence, the CAA indicated that environmental stakeholder engagement may not be necessary but that an assessment of the impact would need to be provided before the CAA could determine what, if any, (a) environmental assessment of the proposal; and (b) stakeholder engagement the sponsor would be required to undertake in order to progress this proposal.

Impact Assessment

12. On the 23 June 2017 the sponsor provided the CAA with an Impact Assessment document, which provided detail about:
 - a. The rationale for the procedures
 - b. The environmental aims of the proposal
 - c. Engagement that had taken place with aircraft operators
 - d. Traffic types and volumes
 - e. Examples of profiles flown currently by the main based operator
 - f. Runway prevalence
 - g. Diagrams indicating the location of the procedures related to nearby conurbations
 - h. Information about the height above the ground at various points related to overflown communities
 - i. Other design options that had been considered
13. The CAA reviewed the impact assessment and agreed with the sponsors preliminary assessment and concluded that the proposal if implemented was likely to have a negligible environmental impact. As a consequence the CAA confirmed that there was no need for the sponsor to undertake any further environmental assessment of the proposal as part of the process

Safety Case

14. On 24 July 2018, the CAA approved the Sponsor's safety argument, based on their submission of information through the CAA's BowTie questionnaire (which had been submitted on 06 June 2018) and supplementary activity between the sponsor and the allocated ATS inspector. The CAA's assessment of that safety analysis will be published by the CAA alongside this decision document. A summary of the CAA's safety analysis is set out below.

Consultation

15. As a consequence of the CAA's review (and ultimate approval) of the detailed information contained in the Sponsor's safety argument, the CAA was able to re-confirm to the sponsor on 27 July 2018 that no further environmental assessment or stakeholder engagement was necessary as part of their proposal. This was because:
 - a. the number of aircraft that were predicted to use the procedures was very low and would not introduce aircraft types that were not already using the aerodrome in VMC.
 - b. The areas overflowed by the procedures were in Class G airspace and were overflowed by other aircraft in all directions at varying altitudes in VMC.
 - c. The procedures were away from other airspace structures and would not be used for initial instrument training and the procedures had been designed to minimise noise impact where appropriate without additional operational complexity.

Submission of Airspace Change Proposal and relevant CAA process

16. The CAA received the sponsor's Airspace Change Proposal on 27 July 2018.
17. Notwithstanding that the CAA introduced a new airspace change process on 2 January 2018 (known as CAP 1616) this ACP has been developed and is assessed in accordance with the CAA's airspace change process known as CAP 725. This is in accordance with a transition policy developed with the Department for Transport and consulted on in 2016 and confirmed in 2017.

Amendment to the submitted Airspace change proposal: proposed use of the procedures

18. The proposal received on 27 July 2018 stated “The introduction of instrument procedures at Sywell would benefit the commercial operators, increasing productivity through more reliable operations from their base at Sywell”. In a letter sent to Hd AAA the sponsor dated 23 October 2019, the sponsor indicated that if the restriction to based operators remained, it would “kill off our aspirations of becoming a Corporate Aircraft Facility to serve Northamptonshire”. This aspiration had not been articulated to the CAA before this date and as such needed to be considered along with the other information provided.
19. On 01 November 2019, the CAA received another letter from the Sponsor confirming that the operational situation at Sywell Aerodrome had changed and that their main client based at the aerodrome had moved the majority of their fleet to another aerodrome during the period in which the CAA had been considering their proposals.
20. The Sponsor revised their proposal to include the possibility that visitors who would likely utilise small executive aircraft of the same type that visit the aerodrome in good weather conditions could use the proposed procedure, but subject still to a maximum of 6 flights per day. The procedures would give operators of those aircraft more certainty of being able to recover to the aerodrome in poor weather.

Information considered by the CAA

- Airspace Change Proposal 1.1
- Update on Operational Circumstances at Sywell
- Sywell BowTie Questionnaire Response
- ATS Safety Case 1.3
- Letter to Jon Round indicating aspirations

CAA Analysis of the Material provided

21. As a record of our analysis of this material the CAA has produced:

- An **Operational Assessment** which is designed to brief the decision maker whether the proposal is fit for purpose. This assessment contains:
- The CAA's assessment of the airspace change proposal justification and options considered.
- The CAA's assessment of the proposed airspace design and its associated operational arrangements. An assessment of the design proposal is produced to illustrate whether it meets CAA regulatory requirements regarding international and national airspace and procedure design requirements and whether any mitigations were required to overcome design issues.
- The CAA's assessment of whether adequate resource exists to deliver the change and whether adequate communications, navigation and surveillance infrastructure exists to enable the change to take place.
- The CAA's assessment of whether maps and diagrams explain clearly the nature of the proposal.
- The CAA's assessment of the operational impacts to all airspace users, airfields and on traffic levels and whether potential impacts have been mitigated appropriately.
- The CAA's conclusions are arrived at after a CAA Case Study. An Operational Assessment is completed for all airspace change proposals and forms a key part in the CAA's decision-making process as to whether a proposal is approved or rejected. The Operational Assessment will also include any recommendations for implementation such as conditions that should be attached to an approval, if given.

The CAA's Operational Assessment will be published on the CAA's website along with other documentation produced by CAA's Air Traffic Management section.

CAA decision in respect of Consultation

22. For the reasons set out above the CAA concluded that the impact of the proposed procedures would be minimal and as such, no additional stakeholder engagement was necessary beyond that undertaken for the Sponsor's Impact

Assessment. For this reason no separate CAA Consultation Assessment has been produced.

CAA Consideration of Factors material to our decision whether to approve the change

Explanation of statutory duties

23. Pursuant to the Civil Aviation (Air Navigation Directions) 2017 Direction 5, it is one of the CAA's air navigation functions to decide whether to approve a proposal for a permanent change to airspace design. By Direction 5(2) the CAA may make its approval subject to such modification and conditions as the CAA considers necessary. The CAA's statutory duties when carrying out its functions under Direction 5 are contained in Section 70 of the Transport Act 2000 (the Transport Act). Those duties include taking account of Guidance to the CAA on Environmental Objectives relating to the exercise of its air navigation functions. In accordance with guidance given to the CAA by the Secretary of State, the version of Guidance on Environmental Objectives relevant to consideration of this proposal is the 2014 Guidance (the 2014 Guidance). By a letter dated 30 October 2019 the Secretary of State amended that guidance as it relates to proposals for instrument flight procedures of the nature and in the circumstances proposed here.
24. In summary, the CAA's primary duty under Section 70(1) of the Transport Act requires that the CAA exercises its air navigation functions so as to maintain a high standard of safety in the provision of air traffic services. This duty takes priority over the material considerations set out in Section 70(2).
25. Where an airspace change proposal satisfies all of the material considerations identified in Section 70(2) and where there is no conflict between those material considerations, the CAA will, subject to exceptional circumstances, approve the airspace change proposal.
26. Where an airspace change proposal satisfies some of the material considerations in Section 70(2) but not others, this is referred to as a conflict within the meaning of Section 70(3).

27. In the event of a conflict, the CAA will apply the material considerations in the manner it thinks is reasonable having regard to them as a whole. The CAA will give greater weight to material considerations that require it to “secure” something than to those that require it to “satisfy” or “facilitate”.
28. The CAA regards the term to “take account of” as meaning that the material considerations in question may or may not be applicable in a particular case and the weight the CAA will place on such material considerations will depend heavily on the circumstances of the individual case. The analysis of the application of the CAA’s statutory duties in this airspace change proposal is set out below.

Conclusions in respect of safety

29. The CAA’s primary duty is to maintain a high standard of safety in the provision of air traffic services and this takes priority over all other duties.¹
30. In this respect, with due regard to safety in the provision of air traffic services, the CAA is satisfied that the proposals maintain a high standard of safety for the following reasons:
 - a. The proposed procedures provide a safe method of landing an aircraft at Sywell aerodrome in poor weather conditions, in terms of low cloud ceiling and low visibility.
 - b. The proposed procedures have been designed in accordance with ICAO and CAA standards, customs and practices and where they deviate from these, the CAA has accepted the Sponsor’s safety argument for the difference. This is because of the warnings that have been added to the proposed charts, the very low anticipated use of the procedures, the uncongested airspace within which the procedures are located, and the slot system proposed by the sponsor.
 - c. The CAA was content, following internal discussion about this specific proposal, that the procedures could be operated, on balance more safely, by the sponsor without a Hold. This is because of the lack of any

¹ Transport Act 2000, Section 70(1).

air traffic service capability to manage traffic in the Hold or in the vicinity of the Hold, if one were to have been included as part of the design.

- d. The procedures will not be located close to any other airspace structure and the sponsor has taken steps to mitigate interaction with procedures at Cranfield
- e. The sponsor operates a Safety Management System which meets the requirements of CR (EU) 1035/2011 as appropriate and so we are satisfied that the new procedures will be operated safely. Additionally, we will keep this under review throughout our continuous oversight programme of audits.
- f. Sywell has utilised the CAA tool (referred to as the Bowtie questionnaire) to produce a safety framework (including specific mitigations) to justify the implementation of its planned approach. This analysis included (this is not an exhaustive list):
 - i. Estimate of traffic movements
 - ii. Licensed status of aerodrome
 - iii. Limitations on use of procedures
 - iv. How ground movements will be managed
 - v. Ability to check the runway is free from obstructions
 - vi. Ability to limit the use of the aerodrome and ATZ
 - vii. Understanding of airspace environment around aerodrome
 - viii. Designated Operational Coverage
 - ix. Aerodrome Safety Management System
- g. The Sponsor would provide a Pilot's Brief to ensure that pilots planning to utilise the IFPs were familiar with the aerodrome and procedures to follow to utilise the IFP.

- h. The ATM Inspectorate has reviewed and accepted this framework, albeit with the need for Sywell to continue to maintain/deliver the mitigations (to which it committed in its safety framework).
- i. In order to develop and retain confidence in the delivery of (and function/acceptability of) the defined safety mitigations, the ATM Inspectorate is scheduling a programme of enhanced oversight for the coming year, including provision for unannounced audits of the specifics identified in the safety framework.

Conclusions in respect of securing the most efficient use of airspace

31. The CAA is required to secure the most efficient use of the airspace consistent with the safe operation of aircraft and the expeditious flow of air traffic.²
32. The CAA considers that the most efficient use of airspace is defined as ‘secures the greatest number of movements of aircraft through a specific volume of airspace over a period of time so that the best use is made of the limited resource of UK airspace’.
33. The CAA considers the expeditious flow of air traffic to involve each aircraft taking the shortest amount of time for its flight. It is concerned with individual flights.
34. In this respect, the classification of airspace related to this proposal will not change, which means that there will be no change to the ability or conditions of other airspace users to utilise the airspace.
35. The proposed procedures mean that aircraft will be able to utilise the airspace in a limited manner in weather conditions that currently restrict activity at the aerodrome.
36. The proposed procedures will also reduce the number of times aircraft may have to divert to other aerodromes, only to have to continue the flight when the weather conditions are conducive. This will result in fewer track miles flown by those aircraft.

² Transport Act 2000, Section 70(2)(a).

Conclusions in respect of anticipated impact of the proposed change on the environment

37. The CAA has a duty to consider a number of material considerations when deciding whether or not to approve a change to the structure of UK airspace including the anticipated impact of the change proposed on the environment. The CAA is required to take account of the Secretary of State's guidance on environmental objectives given to the CAA. The guidance relevant to this decision is that published in 2014, as amended by the Secretary of State's letter dated 30 October 2019.
38. As discussed above, the sponsor provided information to the CAA regarding the minimal anticipated impact of the proposed change on the environment, including as affected by an updated prediction of the number of aircraft that are likely to use the procedures. The CAA agrees with the assessment provided by the Sponsor because the proposed procedures:
- a. Will be limited to specific circumstances (when a pilot is unable to make a visual approach).
 - b. Will be used very infrequently compared to the general level of traffic.
 - c. Are in a location away from other airspace structures.
 - d. Will be used by aircraft types which already visit the aerodrome.
 - e. Will not be made available for initial instrument training.
 - f. Will reduce any other activity within the aerodrome ATZ while the procedure is in use.
 - g. Have been designed to minimise noise impact where safe operation is not impacted by doing so.
39. While the introduction of the procedures may lead to an increase in the number of operators that consider Sywell as a base, the overall number of movements are unlikely to increase significantly due to the limited number of operators that would benefit from the procedures but an accurate figure is difficult to quantify. In any event the proposal and therefore this decision is limited to a maximum of 6 flights per day

40. The CAA has therefore concluded that the proposal will have a negligible impact on the environment.

Conclusions in respect of aircraft operators and owners

41. The CAA is required to satisfy the requirements of operators and owners of all classes of aircraft.³
42. In this respect, the proposal provides the opportunity for owners and operators of aircraft able to utilise the procedures, to land at Sywell Aerodrome in weather conditions which may not have been possible previously.
43. Given the frequency of use and the weather conditions in which the procedures will be used, the impact on non-participating aircraft owners and operators will be minimal.
44. The CAA has taken into account the view of the Secretary of State set out in its letter dated 26 September 2019 and 30 October 2019 that they are keen and committed to see that the UK benefits from being the best place in the world to undertake general aviation-related activities.

Conclusions in respect of the interests of any other person

45. The CAA is required to take account of the interests of any person (other than an owner or operator of an aircraft) in relation to the use of any particular airspace or the use of airspace generally.
46. In this respect, the low frequency of use by aircraft types that currently use the aerodrome, means that the impact on any other person will be minimal.
47. In this regard the views of the Secretary of State are relevant and have also been taken into account in this regard.

³ Transport Act 2000, Section 70(2)(b).

Integrated operation of ATS

48. The CAA is required to facilitate the integrated operation of air traffic services provided by or on behalf of the armed forces of the Crown and other air traffic services.⁴

Interests of national security

49. The CAA is required to take into account the impact any airspace change may have upon matters of national security.⁵ There are no impacts for national security.

International obligations

50. The CAA is required to take into account any international obligations entered into by the UK and notified by the Secretary of State.

⁴ Transport Act 2000, Section 70(2)(e).

⁵ Transport Act 2000, Section 70(2)(f).

CAA's Regulatory Decision

51. Noting the anticipated impacts on the material factors we are bound to take into account, we have decided to approve the RNAV GNSS IAPs to both Runways at Sywell Aerodrome because:
- a. The proposal provides the opportunity for owners and operators of aircraft able to utilise the procedures, to safely land at Sywell Aerodrome in weather conditions which may not have previously been possible.
 - b. The CAA has accepted the Sponsor's safety argument that the procedures can be operated safely.
 - c. The final procedure design and the weather conditions in which the procedures will be used, mitigates the impact on other airspace users.
 - d. The low frequency of use, by aircraft types that already use the airport, means that the environmental impact of the introduction of the procedures is likely to be minimal.

Conditions

52. The CAA approves the implementation of the LNAV element of the proposed procedures only. It is a condition of the decision that the LPV element of the procedures will not be implemented prior to the Sponsor having an EGNOS working agreement in place and the LPV procedures being validated to the satisfaction of the CAA.
53. It is a condition of this approval that the sponsor continues to benefit from the CAA exemption under Article 183(b) Air Navigation Order 2016, i.e. to maintain and deliver the mitigations to which it committed in its safety framework. If in the view of the CAA it does not do so this approval will no longer be effective, and these procedures will be removed from the AIP.
54. It is a condition of this approval that the sponsor submits to and achieves a successful audit by CAA ATM of the specifics identified in the safety framework, prior to the implementation of the procedures.

If, in the view of the CAA, the sponsor does not achieve a successful audit, or is unable to remedy any adverse audit findings to the satisfaction of the CAA, this approval will no longer be effective and these procedures will be removed from the AIP.

Civil Aviation Authority

29 November 2019