Safety and Airspace Regulation Group

Newcastle International Airport

Airspace Change Decision

CAP 1765

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Chapter 1

Executive summary

Objective of the Proposal

1. Newcastle International Airport (NIA) identified a requirement to implement Area Navigation (RNAV) Global Navigation Satellite System (GNSS) Approaches and Standard Terminal Arrival Routes (STARS). The objective is to utilise satellite-based navigation systems to ensure more accurate and predictable flight paths, whilst duplicating current operations, to deliver greater fuel savings, reduced emissions and further improve the noise environment for people on the ground. The Airspace Change Proposal (ACP) was submitted on 08 November 2017.

Summary of the decision made

2. The CAA has decided to approve the proposed changes to Newcastle International Airport STARs and GNSS approaches, subject to the conditions detailed in Chapter 3.

3. The change will introduce a STAR routeing from the main UK airway network along P18 to a new point called ETSES. At ETSES an RNAV Hold will be established in the event of aircraft suffering a radio failure whilst on the approach. The STAR at ETSES leads to a transition route for RNAV (GNSS) approaches to both Runway 07 and Runway 25.

Next steps

4. Implementation of the revised airspace will be notified through a single AIRAC cycle (AIRAC 06/2019) and will become effective on 23 May 2019.

5. The CAA's Post Implementation Review (PIR) of the changes approved by the CAA in this decision will commence at least one year after implementation of those changes. It is a condition of the CAA's approval that the sponsor provides

data required by the CAA throughout the year following implementation to carry out that PIR. In due course, the sponsor will be advised of the specific data sets and analysis required, and the dates by when this information must be provided. The PIR is the seventh stage of the CAA's airspace change proposal process (set out in CAP 725, the Guidance on the Application of the Airspace Change Process[1]) and will consider whether *"the anticipated impacts and benefits, set out in the Airspace Change Proposal, have actually been delivered"*. The policy states that if those impacts and benefits have not been delivered then the review should *"ascertain why and … determine the most appropriate course of action"*.[2].

[1] www.caa.co.uk/CAP725

[2] There are therefore a wide range of possibilities for the conclusions of a PIR; they include a rejection of the proposal, the imposition of further requirements on the proposal, and the making of wider recommendations, albeit that the success of the proposal is not dependent upon them.

Chapter 2

Decision Process and Analysis

Aims and Objectives of the Proposed Change

6. At present all aircraft on approach to Newcastle International Airport are guided by verbal instructions from Air Traffic Controllers. The principal aim of the introduction of a STAR is to allow suitably equipped aircraft to use 'Area Navigation' flight procedures for their approaches. This would allow for a more efficient flight, potentially saving fuel and reducing CO2 emissions, which is a Government priority for aviation and one of the CAA's Strategic Objectives. The introduction of a STAR is also in accordance with EU and UK policies on Performance Based Navigation (PBN). The STAR and RNAV approaches are designed to work within the parameters of currently established airspace. With no new controlled airspace proposed there is minimal if any impact on other airspace users. They conform to the Traffic Orientation Scheme implemented by NATS for high level aircraft overflying the North East region of the UK.

7. The aim of the RNAV (GNSS) approaches is to replicate the current Instrument Landing System (ILS) approaches as a contingency or alternative navigation procedure which embraces technological advances. These will also facilitate suitably equipped aircraft to plan a continuous descent, generating improved fuel efficiency and reduced noise 'scattering' by creating more predictable routes.

Chronology of Proposal Process

Framework Briefing

8. A Framework Briefing took place at CAA House, London on 8th January 2015. During this NIA outlined its proposal and justification for the introduction of STARs and RNAV procedures. NIA confirmed that whilst normally an en-route procedure, NATS had delegated responsibility for the design of the STAR back

to Newcastle. The CAA was assured that considerable dialogue had already taken place over this and that close collaboration would continue until the design was finalised and formal consultation commenced.

9. A post-presentation in-depth discussion ensued on the proposed design, specifically surrounding the STARs and whether a single STAR to then transition to individual approaches had been considered and on radar and radio fail procedures and the requirement for a hazard identification process to ensure all issues are captured. The CAA emphasised the need for consideration of environmental issues in any subsequent proposal, including noise below 7000ft, transparency in any statements regarding ground track of procedures, forecast traffic levels and fuel uptake figures.

10. The meeting concluded with a summary of the points raised and an action plan for the sponsor to consider prior to commencing an ACP. The CAA emphasised the need for a collaborative approach, in particular with aviation stakeholders; the requirement for a hazard identification to capture radio/radar fail procedures; consideration to be made to a single STAR with transition to individual RNAV approaches and to ensure that if an ACP was subsequently submitted that it captures all necessary and relevant information particularly environmental.

Consultation

11. A public consultation took place between 10th March and 02nd June 2017. The consultation document was emailed to 72 organisations and individuals, including the MoD, airlines, adjacent aerodromes, local airspace users, and national bodies such as the Light Aircraft Association. The consultation document was made available for general distribution online through a dedicated link on the NIA website, with hard copies available at the airport and local libraries. During the Consultation period two public meetings were held (20 April and 10 May 2017) to raise awareness of the consultation, and reminder notifications were sent out twice to outstanding responders. A total of 92 responses were received, including 25 from aviation organisations, 5 from Local Authorities, 56 from individual members of the community, and 6 from other parties. The sponsor published the Consultation Feedback Report on their website on 04th December 2017.

12. The original public consultation did not contain details on the sponsors preferred option to implement an RNAV Hold at ETSES in the event of an aircraft suffering a radio fail whilst on the STAR. With a base level of FL090 and enhancing safety, the CAA deemed it appropriate for the sponsor to conduct supplementary engagement with key aviation stakeholders regarding this. This took place between 15th October and 23rd November 2018. In addition to email correspondence with airspace users and ANSPs in the local area, a meeting was held with the base captains of 4 airlines based at the airport. All responded positively to the proposal and the RNAV Hold was incorporated into the design.

Submission of Airspace Change Proposal

13. On 08th November 2017 the CAA received the formal ACP submission. This included the Consultation Document, Consultation Report, and individual consultation responses and correspondence. Also included was noise modelling data, proposed charting and Letters of Agreement with Durham Tees Valley Airport and Northumbria Gliding Club.

CAA Analysis of the Material provided

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

- 20190121 Newcastle STAR and PRNAV (GNSS) Approaches Operational Assessment
- 20190204 Consultation Assessment Newcastle STAR and IAPs
- 20180531 Environmental Assessment Newcastle STAR and IAPs

The CAA's Assessments will be published on the CAA's website.

CAA assessment and decision in respect of Consultation

15. The CAA considered the Consultation Document, Consultation Report, and individual responses. The fundamental principles of effective consultation are targeting the right audience, communicating in a way that suits them, and giving

them the tools to make informative, valuable contributions to the development of the proposals. The consultation material was written in plain English and suitable for non-aviation audiences. It included in layperson's terms what RNAV approaches are, the drivers for the change and the impact. Audience appropriate, the consultation itself allowed respondees to make informative, valuable contributions to the proposal. The consultation was promoted using a variety of methods, including direct communication with stakeholders, social media, local libraries, press coverage and Local Authority meetings. Of the 92 responses there were 4 objections to the proposal. One objection was removed after an explanation to the individual and 2 others were mitigated by the sponsor modifying the final design prior to submission.

16. The supplementary engagement with key aviation stakeholders was conducted over a 6-week period as directed by the CAA. The material was suitable, and the direct method of engagement encouraged and appropriate. The CAA assessed the responses, which were all positive, and were satisfied with the engagement and the introduction of the STAR into the final design.

17. In this respect, the CAA is satisfied that the fundamental principles of consultation have been applied by NIA before, during and after the consultation. In addition, the CAA is satisfied that the change sponsor has conducted their consultation in accordance with the requirements of CAP 725.

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

Explanation of statutory duties

18. The CAA's statutory duties are laid down in Section 70 of the Transport Act 2000.

Conclusions in respect of safety

19. 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.[3]

20. In this respect, with due regard to safety in the provision of air traffic services, the CAA is satisfied that the proposal maintains a high standard of safety for the following reasons:

    a. The STAR is deconflicted from departures from Durham Tees Valley Airport, has suitable connectivity with the airways structure, conforms to the Traffic Orientation Scheme, and has an RNAV Hold to cater for aircraft in an emergency.

    b. The STAR, transitions and RNAV approaches have been designed in consultation with NATS (PC). They are wholly contained within controlled airspace, and approaches to Runway 07 take into account activity at Currock Hill glider site.

    c. Newcastle Standard Instrument Departures which end at FL080 are deconflicted from arrivals on the STAR or in the RNAV Hold which are at FL090 and above.

Conclusions in respect of securing the most efficient use of airspace

21. 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.[4]

22. 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'.

23. 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.

[3] Transport Act 2000, Section 70(1).
[4] Transport Act 2000, Section 70(2)(a).

24. No new airspace is associated with this proposal, and no new restrictions are placed upon other airspace users in terms of access. The proposal is not designed to facilitate additional aircraft movements, moreover it is to utilise modern technology to recover those using the airport. In this respect, the CAA is content that the most efficient use of airspace is maintained with the proposal.

Conclusions in respect of taking into account the Secretary of State's guidance to the CAA on environmental objectives

25. In performing the statutory duties, the CAA is obliged to take account of the extant guidance provided by the Secretary of State,[5] namely the 2014 Guidance to the CAA on Environmental Objectives.

26. The proposal is not designed to generate growth and therefore increase aircraft volume at the airport, or significantly alter the existing tracks over the ground. The RNAV Hold and STAR have a base level of FL090 and therefore are above the levels required for consideration of environmental noise or tranquillity impact under CAP 725.

27. The proposal aims to provide an environmental benefit through reduced maintenance costs, fuel burn and emissions as a result of increased adherence to Continuous Descent Operations (CDO), and reduced fuel uplift through improved accuracy of flight planning. The proposal contributes to the government directive of reducing, controlling or mitigating the environmental impacts of civil aircraft operations.

28. The use of CDOs and increased use of Low Power Low Drag procedures are intended to reduce noise. The airspace change is expected to provide better noise abatement compliance, all of which are factors that may result in a noise benefit for areas immediately beneath the approach paths. These paths replicate as close as possible the existing conventional approach paths.

29. In this respect the CAA is satisfied that there is no negative environmental impact from the proposal and that benefits could be accrued.

[5] Transport Act 2000, Section 70(2)(d)

Conclusions in respect of aircraft operators and owners

30. The CAA is required to satisfy the requirements of operators and owners of all classes of aircraft.[6]

31. General Aviation, the gliding community and the military are not impacted by the proposal as no new airspace has been introduced or an increase in traffic to Newcastle Airport, and the proposal conforms to existing requirements to these users.

32. In this respect the CAA is satisfied that the proposal does not negatively impact any owners or operators of other classes of aircraft.

Conclusions in respect of the interests of any other person

33. 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.

34. The proposal looks to maintain current tracks over the ground, and alleviate some issues by introducing CDOs; therefore, the impact on communities and other persons should at worse remain the same.

35. In this respect the CAA is satisfied by the proposal.

Integrated operation of ATS

36. 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.[7]

37. The proposal took into consideration the requirements of Durham Tees Valley Airport by inserting a 'not below' in the STAR ensuring separation from departures. In addition, it redesigned the integration of the STAR with the airways sector to conform with NATS Prestwick Centre. The MoD is not impacted by the proposal.

[6] Transport Act 2000, Section 70(2)(b).
[7] Transport Act 2000, Section 70(2)(e).

38. In this respect, the proposal successfully integrates with the operation of other ATS.

Interests of national security

39. The CAA is required to take into account the impact any airspace change may have upon matters of national security.[8] There are no impacts for national security.

40. In this respect, the proposal satisfies this requirement.

International obligations

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

42. In this respect, the proposal satisfies this requirement.

[8] Transport Act 2000, Section 70(2)(f).

Chapter 3

CAA's Regulatory Decision

CAA's Regulatory Decision

43. Noting the anticipated impacts on the material factors we are bound to take into account, we have decided to approve the introduction of a STAR, RNAV Hold and RNAV (GNSS) Approaches at Newcastle International Airport. As detailed in Chapter 2, the change fulfils the requires of the CAP 725 airspace change process and conforms to both the CAA's statutory obligations as laid out in the Transport Act (2000), and the guidance to the CAA on environmental objectives as detailed in the Air Navigation Guidance (2017).

Period Regulatory Decision Remains Valid for Implementation

44. The ACP is to be implemented in accordance with the target date of AIRAC 06/2019.

45. The revised airspace will become effective on 23 May 2019. Any queries are to be directed to the SARG Project Leader via airspace.policy@caa.co.uk.

Conditions

46. The sponsor will provide data required by the CAA to carry out the PIR as detailed below.

Post Implementation Review

47. In accordance with CAA standard procedures and Stage 7 of the ACP Process, as detailed in CAP 725, the implications of the change will be reviewed after one full year of operation, at which point CAA staff will engage with interested parties to obtain feedback and data to contribute to the analysis. The CAA will review how the airspace change has performed, including whether the anticipated impacts and benefits in the original proposal and decision have been delivered.

48. The PIR will include, but not be limited to, reviewing the impact of the change on all airspace users. The sponsor will provide detail on the volume of traffic utilising

the STAR, the RNAV Hold, and any associated issues or benefits with adjoining ANSPs. Any complaints from any party regarding the change or its associated impact are to be recorded and presented for the PIR. This will include, but not be limited to, noise complaints. Evidence of benefits from the change including flight planning, reduced fuel uptake, and airline operators utilising CDOs and Low Power Low Drag approaches are also to be recorded and provided.

Civil Aviation Authority

22 February 2019