

Introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures – Post Implementation Review

CAP 2176

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Executive Summary

The CAA's airspace change process applicable at the time of the proposed change was a seven-stage mechanism that is set out in detail in CAP 725. Under this process NATS submitted proposals to the CAA to introduce New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures. Stage 7 of this process is a Post Implementation Review (PIR) that normally begins one year after implementation of the change. It should be noted that this proposal reflects only the change in arrivals threshold for Runway 33. It does not reflect the proposed changes to the SIDs from Runway 15 or Runway 33 which were being considered in separate and subsequent Airspace Change Proposals (ACP-2012-02 and ACP-2016-15 respectively, each of which will be subject to their own discrete PIRs). Consequently, this PIR will only review the Runway 33 approach procedures set out in ACP-2012-04.

The period under review for the Introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures is 6th February 2014 to 5th February 2015 (i.e. 12 months from the implementation date). Competing priorities for the allocation of resources resulted in a delay to us starting this particular review. The CAA commenced the PIR of the impact of its decision and the implemented change on 13th January 2021. This PIR has been further delayed due to the challenges of the Coronavirus pandemic. The content and outcome of this review process by the CAA is discussed in this report.

On 2 January 2018 the CAA introduced a new process for making a decision whether or not to approve proposals to change airspace design. Irrespective of whether the CAA decision to approve the change was made under the previous process (set out in CAP 725), we will conduct all Post Implementation Reviews in accordance with the process requirements of CAP1616. However, when assessing the expected impacts against the actual impacts we will use the methodology adopted at the time of the original CAA decision in order to do so.

For the reasons set out in the body of this report the CAA is unable to reach an evidence-based conclusion as to whether the Introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures satisfactorily achieved the objective stated in the CAA's decision document. However given the limited scope of the changes, lack of evidence of negative stakeholder feedback, the interval since implementation and the management changes at Birmingham, the CAA is satisfied that the changes are now confirmed.

This report, and its annexes, provide a summary of the information the CAA has reviewed and taken into account before reaching these conclusions. Information the CAA has taken into account will be made available upon request.

Scope and Background of the PIR

What is a Post Implementation Review

The CAA's approach to decision-making in relation to proposals to approve changes to airspace is explained in its Guidance on the Application of the Airspace Change Process, CAP [725/1616]. This detailed Guidance provides that the seventh and last stage of the process is a review of the implementation of the decision, particularly from an operational perspective, known as a Post Implementation Review (PIR).

The Guidance states that the purpose of a PIR *"is for the change sponsor to carry out a rigorous assessment, and the CAA to evaluate, whether the anticipated impacts and benefits in the original proposal and published decision are as expected, and where there are differences, what steps (if any) are required to be taken."*

If the impacts are not as predicted, the CAA will require the change sponsor to investigate why, and consider possible mitigations or modifications for impacts that vary from those which were anticipated to meet the terms of the original decision.

A PIR is therefore focused on the effects of a particular airspace change proposal. It is not a review of the decision on the airspace change proposal, and neither is it a re-run of the original decision process.

Background to our conclusions in this PIR Decision

On the 15th August 2013 the CAA approved the Introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures. In our Decision document dated 15th August 2013, we provided factual information and background to the change. We recommend readers of this report read that document in conjunction with this document. The Decision letter can be found at Annex A.

The change sponsor provided the following statement to explain their difficulties with providing data to support this PIR:

Birmingham Airport Limited (BAL) is unable to provide an informed response to many of the data requirements for this PIR. Birmingham Airport Limited's Air Navigation Service Provider (ANSP) provider at the time of the change was NATS, this has since changed to Birmingham Airport Air Traffic Limited (BATTTL). BATTTL do not have these records as they (BATTTL) did not exist at the time of the change and have been unable to obtain the required data from NATS in the timescales set out to deliver this PIR. The industry is very resource challenged at the present moment with many employees currently on [Covid] furlough.

Limitations to an evidence-based conclusion

- Records of this change which took place in 2013 no longer exist within the BAL filing system.
- BAL employees directly involved in this change no longer work for BAL following an organisational restructure following the COVID-19 pandemic.
- NATS AIS are unable to confirm the date [of the change] since they have changed systems and no longer have these records accessible. The scheduled implementation date was 6th February 2014 and without evidence to the contrary we are confident that the change was implemented when scheduled.

Conditions attached to the CAA's decision to approve the change.

It should be noted that the Decision Letter did not stipulate any specific conditions concerning the is ACP.

Sponsor's comment: Not applicable as there were not any conditions attached to the approval.

It was noted in the Decision Letter that the IAP (Instrument Approach Procedure) data should be submitted to AIS to meet the deadline submission date for information by 17 October 2013.

The change sponsor is unable to confirm whether the deadline for IAP (Instrument Approach Data) quoted in the Decision Letter was met.

CAA comment: We are confident the deadline was met as the IAPs were implemented.

Relevant events since change (if any)

Birmingham Airport Limited's Air Navigation Service Provider (ANSP) provider at the time of the change was NATS, this has since changed to Birmingham Airport Air Traffic Limited (BATTLL).

The Sponsor reports that following the Introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures aircraft types are typically the same as they were previously.

CAA Comment: The sponsor has not reported any other relevant events during the period of the review (6th February 2014 to 5th February 2015).

Data collected for the purpose of the PIR

Sources of Information

Change Sponsor

In response to several email requests sent by the CAA to the Sponsor Birmingham Airport Limited between 13th January 2021 and 4th June 2021 the Sponsor provided the analysis/data required to complete this report. Information the CAA has taken into account will be made available upon request.

CAA Comment: It should be noted that the sponsor has not been able to provide the CAA will all the data requested.

Other data we have considered

Given the nature of this airspace change the CAA concluded that it was not necessary to seek other sources of information to conduct this review.

Objectives and Anticipated Impacts

The original proposal and its objectives

Although not explicitly stated in the ACP the following objectives have been gleaned from the ACP and the Decision Letter.

The primary objective of this ACP was to enable full use the extended runway for arrivals to Runway 33. The supporting instrument approach procedures (comprising the Glide Path (GP) element and the Distance Measuring Equipment (DME) elements of the Instrument Landing System (ILS) were to be relocated to reflect the new landing threshold of Runway 33. As a consequence the Instrument Approach procedures (IAPs) to runway were revised to reflect the new runway configuration and the location of the navigation aids.

Sponsor's comment: BAL believes that the objective has been met as the IAPs for the extended runway are now in use.

A secondary objective of this ACP was to reduce the dependence on NDB(L) and SRA IAPs for those occasions when the ILS is not available by introducing RNAV APV Baro-VNAV procedures.

The sponsor reports RNAV (since renamed RNP) procedures have been implemented and this objective has been met.

Anticipated Impacts

The sponsor believes that following the introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures there were no unforeseen or unintended operational impacts of the proposal during the period of the review (6th February 2014 to 5th February 2015).

CAA Assessment

Operational Assessment

Safety

The sponsor reports that NATS were the ANSP at the time of the ACP and implementation. Information concerning AIRPROX/MOR data for the period 12 months before the date of implementation and for the period of 12 months after date of implementation is not available to Birmingham Airport Air Traffic Limited.

CAA Comment: Given the particular circumstances around this PIR we have decided to adopt a proportionate approach to its conduct. Although BAL is unable to provide safety data, we are confident that any safety issues that might have been identified after implementation would have been investigated and resolved at the time. The CAA acknowledges that it would be a disproportionate use of resources to insist that the sponsor now review relevant historical data.

Operational Feedback

The sponsor reports that NATS Ltd were the Air Navigation Service Provider for the twelve months following the date of implementation but have been unable to obtain the relevant information from NATS.

Air Navigation Service Provision

The sponsor reports that NATS Ltd were the Air Navigation Service Provider at the time of the ACP and implementation but have unable to obtain the relevant information from NATS.

The sponsor reports that NATS Ltd were the Air Navigation Service Provider at the time of the ACP and implementation but have unable to obtain the relevant information from NATS relating to the training required to support the revised operation

Utilisation, Track Keeping

The sponsor reports that NATS Ltd were the Air Navigation Service Provider at the time of the ACP and implementation but have been unable to obtain the relevant information from NATS. Track keeping is not applicable to IAPs.

Traffic

The sponsor provided analysis for RWY33 arrivals for 12 months before the date of implementation and for the period of 12 months after date of implementation.

Year (calendar)	ATMs arriving onto Runway 33	Comments
2012	27493	Pre-change
2013	28164	
2014	27334	Post-change

Note: BAL does not have records of the traffic forecasts specifically for arrivals as used to the ACP and therefore cannot provide comparison between forecast and actual traffic.

Infringements and Denied Access

The sponsor reports that NATS Ltd were the Air Navigation Service Provider at the time of the ACP and implementation but have not been able to obtain the relevant information from NATS.

Letters of Agreement (where applicable)

The sponsor reports that NATS Ltd were the Air Navigation Service Provider at the time of the ACP and its implementation but have not been able to obtain the relevant information from NATS.

Environmental Assessment

CAA comment. It is noted that the Director in his Decision letter considered the environmental impact of the proposed IAPs and accepted the expert Environmental Research and Consultancy Department conclusion that the changes would have negligible effect upon the environment would materialise and was therefore content that the changes will not have adverse environmental impacts.

Noise

CAA comment: A visual review of the noise contours from 2013 show that there would be no new properties to the south-east of the airport newly encompassed by the contours, other than a very small number of properties close to Bickenhall that appear to be brought within the 69dBA contour (having previously been within the 66dBA contour).

The sponsor reports that Post change noise contours were not produced with this change in isolation. BAATL are unable to do a like for like comparison with [subsequent] contours produced since the SIDs have also changed which will influence the shape and size of the noise contours.

The sponsor reports that complaints data from that time has been deleted within the BAL complaints system in line with BAL and General Data Protection Rules policy and privacy notice

CO₂ emissions and local air quality

CAA comment: In his Decision Letter the Director was satisfied by commentary contained in the Sponsor Consultation Document around Carbon and Air Quality where it was not possible to undertake a Carbon Assessment due to the negligible change [in the approach profile]. Consequently, it would be inappropriate to request that the Change Sponsor undertake a post-implementation assessment for comparison.

International Obligations

CAA comment. We are content that the routine promulgation of new RNAV procedures which are subject to a double AIRAC cycle were sufficient to discharge this obligation. This activity was sufficient notification to inform relevant International operators of the airspace changes.

Ministry of Defence Operations

The Sponsor reports that following implementation of the introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures they are not aware of feedback from the Ministry of Defence feedback during the period of the review (6th February 2014 to 5th February 2015) but have not been able to obtain confirmation from NATS.

Any other impacts

CAA comment: The sponsor has not been able to provide feedback as to whether any significant issues were noted during the period of the review (6th February 2014 to 5th February 2015).

Conclusion

For the reasons noted above the CAA is unable to reach an evidence-based conclusion as to whether the Introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures satisfactorily achieved the objective stated in the CAA's decision document. However given the limited scope of the changes, the interval since implementation, lack of evidence of negative stakeholder feedback and the management changes at Birmingham, the CAA is satisfied that the changes are now confirmed.

Note on plain language

The CAA has attempted to write this report as clearly as possible. Our approach has been to include all the relevant technical material but also to provide a summary and of the conclusions the CAA has reached in reliance on it in as understandable a way as possible. Nevertheless, when summarising a technical subject there is always a risk that explaining it in more accessible terms can alter the meaning.

ANNEX A

Decision Letter

Safety and Airspace Regulation Group



██████████
Head of Aerodrome Operations
Birmingham Airport Limited
Birmingham
B26 3QJ

15th August 2013

Reference: SARG/AR/SL/BirminghamIAPACP

Dear ██████████

BIRMINGHAM AIRPORT AIRSPACE CHANGE PROPOSAL – RUNWAY 33 INSTRUMENT APPROACH PROCEDURES

Thank you for your Airspace Change Proposal (ACP), submitted by e-mail on 17 April 2013. The proposal seeks my approval to introduce new Instrument Approach Procedures (IAPs) to an extended Runway 33 at Birmingham Airport. As you are aware, your proposed changes have been subjected to rigorous scrutiny by members of the CAA Safety and Airspace Regulation Group. The purpose of this letter is to inform you of my decision on the proposal.

In assessing the ACP for Birmingham Airport Runway 33 IAPs, I am required to secure the most efficient use of airspace consistent with the safe operation of aircraft. The new IAPs, which complement the extension to Runway 33, comprise a suite of conventional and RNAV procedures, consisting of ILS/DME, NDB/DME, Localiser, SRA and Baro-VNAV procedures, all of which are contained within the confines of the extant Birmingham Control Zone thus requiring no additional airspace.

I am satisfied that the new IAPs will continue to facilitate the safe arrival of inbound flights to Birmingham Airport and I welcome the introduction of new RNAV procedures, which are consistent with the Future Airspace Strategy.

I am satisfied that airspace efficiency will not be affected and that the needs of the principal users will be met. I have also considered the environmental impact of the proposed IAPs and the expert Environmental Research and Consultancy Department agreed that negligible effect upon the environment will materialise and I am therefore content that the changes will not have adverse environmental impacts.

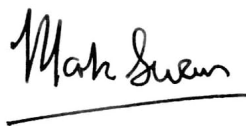
I understand that you have experienced delay with the runway construction programme and that you have yet to submit your ACP for revised Standard Instrument Departure procedures for Runway 15 following an extension to consultation.

I have decided to approve the proposed IAPs for Runway 33 and these revised procedures will become effective from 6 February 2014 at AIRAC 02/2014. Safety and Airspace Regulation Group staff will review the effectiveness of these procedure changes not before 12 months after their introduction and the results of this review will be published.

As you are aware, all new RNAV procedures are routinely subject to a double AIRAC schedule in order to give better assurance of the databases being coded in sufficient time. Your planned implementation date of 6 February 2014 means that you will need to submit the IAP data to AIS to meet the deadline submission date for information by 17 October 2013.

If you have any queries, the CAA Project Leader is [REDACTED], who can be contacted on [REDACTED]. In the meantime, I wish you every success with the remainder of your runway construction programme.

Yours sincerely,



[REDACTED]
Group Director, Safety and Airspace Regulation

ANNEX B

Post Implementation Review Feedback Form

Post Implementation Review Feedback Form	
Title: Introduction of New Runway Threshold for Runway 33 and Associated Changes to Instrument Approach Procedures	Post Implementation Review Feedback
ACP Ref: ACP-2012-04	Approval Date: 15/08/2013
Decision Letter: See attached	Implementation Date: 06/02/2014
1. Did the original proposal meet the intended objectives as described on the CAA's decision letter to approve the change?	Yes
If no, please provide additional comments...	
2. Did the original proposal meet any conditions described on the CAA's decision letter to approve the change?	Choose an item.
Not applicable as there were not any conditions attached to the approval.	
3. Did the Sponsor receive any observations from community stakeholders, aviation stakeholders or the Ministry of Defence from the 12 months following implementation?	No
If yes, please provide additional comments...	
Name of individual	
Position	Environment Manager Birmingham Airport
Date	18/01/2021
13 September 2021	Page 1 of 2

Post Implementation Review Feedback Form

For CAA use only.

Has the Sponsor indicated that the original proposal met the objectives as described in the CAA's decision to approve the change?	Choose an item.
Has the Sponsor indicated that the original proposal met any conditions as described in the CAA's decision to approve the change?	Choose an item.
Has the Sponsor highlighted any observations from community stakeholders, aviation stakeholders or the Ministry of Defence?	Choose an item.

Sign Off

Does the CAA recommend that a post implementation review is conducted?	Choose an item.
--	-----------------

Signed:

[REDACTED]

Name:

[REDACTED]

~~Manager Airspace Regulation~~/Principal Airspace Regulator (delete as applicable)

Date: 10/02/2021

ANNEX C**Table of ATMs on approach to Runway 33**

A breakdown of ATMs on approach to Runway 33 is provided below:

Year (calendar)	ATMs arriving onto Runway 33	Comments
2012	27493	Pre-change
2013	28164	
2014	27334	Post-change
2015	28493	
2016	31755	
2017	35579	
2018	29402	
2019	26395	
2020	9881	Reduced traffic levels COVID-19 pandemic.

Aircraft fleet mix data comparison for the top 20 aircraft in 2013 (year of the change) compared to 2019 is provided below:

Aircraft Type	2013	2019	Increase/Decrease (-)
B738	12392	29458	17066
DH8D	12193	20942	8749
A320	7093	9067	1974

E75S	0	5736	5736
A321	4716	4858	142
A319	3531	4755	1224
B752	7231	3693	-3538
AT76	618	3155	2537
E195	0	2589	2589
CRJ9	3042	1960	-1082
E190	11983	1908	-10075
B788	171	1896	1725
A388	0	1350	1350
AT72	724	933	209
B737	1356	813	-543
A20N	0	705	705
SF34	13	505	492
B739	144	478	334
CRJX	0	425	425