CAP 1616 STEP 2A – AIRSPACE CHANGE DESIGN OPTIONS

STAKEHOLDER ENGAGEMENT

VERSION 1.0

22ND MAY 2019

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BOURNEMOUTH AIRSPACE CHANGE STAGE 2A INTRODUCTION

INTRODUCTION – BOURNEMOUTH AIRSPACE CHANGE (ACP)

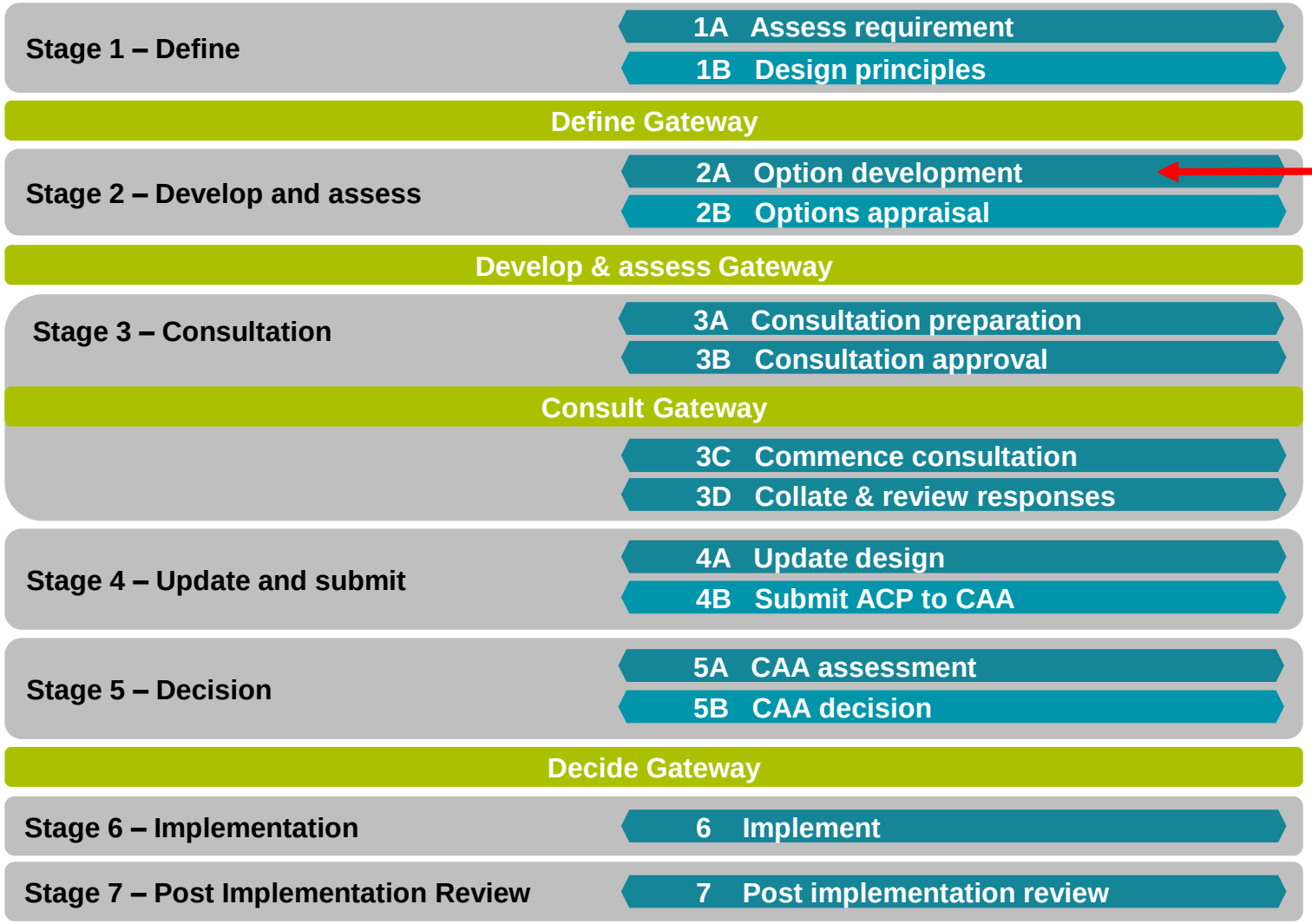
1. The Bournemouth Airspace Change Proposal successfully passed the

   ACP Stage 1 DEFINE Gateway on Friday 26 April.

2. Current Stage 2 has a two steps:

   - 2A – Options development; and
   - 2B – Options appraisal.

INTRODUCTION – WHERE WE ARE?



We are at this stage of process

INTRODUCTION – ACP STAGE 2

CAP1616 requirements for Stage 2 of the process:

Main aims of this presentation

- 2A: Options development
  - **Development of airspace change options.**
  - **Testing options with stakeholders.**
  - **Development of design principles evaluation – how options meet design principles**.
  - Publish Airspace change options and design principles evaluation on CAA portal.
- 2B Options appraisal
  - Completion of Initial appraisal (including safety considerations).
  - Initial appraisal publishing on CAA portal.

PART 1 –
IDENTIFICATION OF THE OPTIONS FOR BOURNEMOUTH ACP

CURRENT STATEMENT OF NEED

Bournemouth Airport has RWY 08 and RWY 26, both providing precision approach capabilities via ILS. The preferential runway is RWY 26 handling 75% of all arrivals with the remainder utilising RWY 08. The ILS on RWY 26 is CAT III.

The ILS (CAT I) serving RWY 08 is obsolete and needs to be replaced. The ILS was installed second hand in 1984/85 and the equipment and maintenance support is at end of life. Unrecoverable failure of the ILS on RWY 08 will have serious operational consequences denying easterly Precision Approaches and increasing dependence on RWY 26. In addition, the publication of EU Implementing Rule (IR) 2018/1048 stipulates the implementation of PBN approach procedures to both RWY 08 and RWY 26 by 2024. By 2030 the IR emphasises the preference for PBN over conventional ILS CAT I.

PART 1 – IDENTIFIED OPTIONS

The following table contains all identified Options at Stage 2A:

Options	
Option 1	Do Nothing
Option 2	Install new CAT I ILS on RWY 08
Option 3	RNP IAP Missed Approach conventional or RNAV to be confirmed during ACP Stage 3
a)	Full T-bar comprising Initial, Intermediate and Final Approach Fixes
b)	Limited T-bar with 1 Initial, Intermediate and Final Approach Fixes
c)	Straight-in with combined Initial/Intermediate and Final Approach Fixes

PART 1: IDENTIFIED OPTIONS

Option 1: Do Nothing

- The 08 ILS is obsolete and well beyond its economic lifetime and at some stage it will fail and will be unrepairable, most likely preceded by reduced availability.
- With failed ILS the RWY will lose 3D precision approach capability (no vertical guidance).
- RWY 08 operations will rely on non-precision 2D NDB and SRA procedures, which are less precise procedures, have higher aircraft minima in comparison with ILS and will increase rates for Go-Arounds and diversion.
- Does not provide increased resilience to runway 26.

PART 1: IDENTIFIED OPTIONS

Option 2: Install new CAT I ILS on RWY 08

- New ILS CAT I will provide 3D approach (with vertical guidance) to RWY 08.
- RWY 08 operations with new ILS will be the same, aircraft minima will be the same as currently achieved.
- The replacement of the ILS will require a significant civil works within the Site of Special Scientific Interest and there is possibility in loss of service/disruption during installation of the new system.
- Very expensive to install and maintain. Not supported by a positive business case.
- Does not provide increased resilience to runway 26.

PART 1: IDENTIFIED OPTIONS

Option 3: Implement RNP IAPs

- This option provides 3D approaches to RWY 08 and RWY 26:
  - LNAV
  - LNAV/VNAV; and
  - LPV.
- There are sub-options relating to the Initial and Missed Approaches that need to be considered in detailed procedure design process, during ACP Stage 3.
- This option addresses increased resilience for RWY 26.

PART 1: YOUR ENGAGEMENT

Questions:

1. Do you agree with proposed list of options?
2. Would you like to add any other options into the list of Options?

Feedback on our questions regarding options welcomed via email **BOH.ACP@askhelios.com** **before 05 June**.

PART 2 –
ALIGNMENT OF THE OPTIONS WITH DESIGN PRINCIPLES

PART 2 – ALIGNMENT OF OPTIONS WITH DESIGN PRINCIPLES

The table below presents an initial assessment of how each option addresses the design principles requirements.

Design Principles	Options		
	Do Nothing	Replace ILS	RNP IAPs
1. The new procedures should not increase the number of people overflown by aircraft participating in the approach	NOK	OK	OK
2. The new procedures should not increase the noise footprint of the existing airport operation, for similar aircraft types and traffic levels, as detailed in the LAeq 16 Hr map in the current Noise Action Plan.	NOK	OK	OK
3. Implementation should minimise disturbance to the Moors River System SSSI.	OK	NOK	OK
4. The new approaches shall be standardised by ICAO and acceptable to EASA and CAA and the implementation shall be in compliance with all applicable legislation and regulations	NOK	NOK	OK
5. The design shall be fully compliant with the design criteria stated in ICAO Doc 8168 (PANS OPS) and be flyable by all aircraft types in approach Speed Categories A through D.	OK	OK	OK
6. The approach procedures shall be of a type for which the majority of Bournemouth aircraft operators are equipped and authorised to fly.	OK	OK	OK
7. The designs shall seamlessly integrate with extant instrument approach procedures at Bournemouth International Airport	OK	OK	OK
8. The procedures should address the needs of flight training operators at Bournemouth	Partial	Partial	OK
9. The design shall support continued use of existing radar vectored arrival procedures provided by Solent Radar.	OK	OK	OK
10. The new procedures shall be implemented in a cost-effective manner.	OK	NOK	OK

PART 2 – ALIGNMENT OF OPTIONS WITH DESIGN PRINCIPLES OPTION 1: DO NOTHING

Design Principles	Alignment	Description
1. The new procedures should not increase the number of people overflown by aircraft participating in the approach	**NOK**	The conventional non-precision 2D NDB and SRA procedures provide less precise guidance spreading flights over a greater area and affecting more people than 3D precision approaches.
2. The new procedures should not increase the noise footprint of the existing airport operation, for similar aircraft types and traffic levels, as detailed in the LAeq 16 Hr map in the current Noise Action Plan.	**NOK**	Non-precision 2D NDB and SRA procedures do not provide vertical guidance requiring aircraft to operate with higher levels of engine thrust and increased engine noise on approach. The increased operating minima of the Non-Precision approaches are likely to result in a higher number of missed approaches, resulting in increased aircraft noise from high thrust settings on the missed approach climb-out
4. The new approaches shall be standardised by ICAO and acceptable to EASA and CAA and the implementation shall be in compliance with all applicable legislation and regulations	**NOK**	This option does not meet the requirements of PBN Implementing Rule (IR) 2018/1048 for PBN Approaches with Vertical Guidance with 3 lines of minima by January 2024. If ILS on RWY 08 becomes unsupportable before 2020, the PBN IR compliance date will become Dec 2020.
8. The procedures should address the needs of flight training operators at Bournemouth	**Partial**	Flight training operators will be able to perform conventional training at BIA but PBN Training will not be supported, noting that BIA is one of the few airports with the infrastructure and capacity to support training operations.

PART 2 – ALIGNMENT OF OPTIONS WITH DESIGN PRINCIPLES
OPTION 2: INSTALL NEW CAT I ILS ON RWY 08

Design Principles	Alignment	Description
3. Implementation should minimise disturbance to the Moors River System SSSI.	**NOK**	The RWY 08 ILS localiser is located in a Site of Special Scientific Interest (SSSI) and replacement construction works would involve significant disruption of flora and fauna and create planning difficulties.
4. The new approaches shall be standardised by ICAO and acceptable to EASA and CAA and the implementation shall be in compliance with all applicable legislation and regulations	**NOK**	This option does not meet the requirements of PBN Implementing Rule (IR) 2018/1048 for PBN Approaches with Vertical Guidance with 3 lines of minima by January 2024.
8. The procedures should address the needs of flight training operators at Bournemouth	**Partial**	Flight training operators will be able to perform conventional training at BIA. In case of PBN training they will have to carry out the training at surrounding airport with PBN IAPs.
10. The new procedures shall be implemented in a cost-effective manner.	**NOK**	PBN Implementing Rule (IR) 2018/1048 foresees RNP approaches in preference to CAT I operations after 2030, thereby negating a positive business case for replacement of RWY 08 ILS.

PART 2: YOUR ENGAGEMENT

Questions:

1. Do you agree with us to dismiss Option 1 and Option 2 as they are not in alignment with the Design Principles?
2. Would you please let us know if you have a preference for the RNP Approach sub-options in rank order.

Feedback on our questions regarding dismissing Option 1 and 2 and preference of Option 3 sub-options welcomed by email **before 05 June** to: **BOH.ACP@askhelios.com**

NEXT STEPS

The next steps are:

1. To complete Options Appraisal Stage 2b.
2. To Select the preferred Option against the Proposed Design Principles.
3. To send the ACP Stage 2 Develop and Assess Gateway submission to CAA by 14 June 2019
4. To be confirmed by CAA at the **Develop and Assess Gateway 28 Jun 2019**.
5. CAA to Determine level of Consultation required at Consult Gateway September 2019.