ACP
London Gatwick

Northern Runway Development

CAP 1616 Stage 1A – ‘Define’
Assessment Meeting Briefing

15 January 2020

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Purpose of the Meeting

The purpose of this slide pack is to:

- Support the Airspace Change Stage 1 ‘Define’ Assessment Meeting
- Describe the airspace change aspects of this proposal
- Set out the rationale for proposing a Level 0 airspace change

GAL attendees:

This document should be read with reference to London Gatwick’s Statement of Need for the standby (northern) runway (08L/26R) dated 12 November 2019. This briefing pack has been produced with reference to CAP 1616 (2nd edition) dated November 2018.

London Gatwick's Statement of Need

- In July 2019 Gatwick Airport Ltd announced its intention to prepare a planning application (Development Consent Order (DCO)) to bring into operation the routine use of its existing northern runway (also known as the standby / emergency runway) at the same time as its existing southern runway.

Current operation

- Single runway configuration, predominantly using the southern runway (08R/26L).
- The northern runway (08L/26R) used when southern runway is temporarily non-operational by reason of maintenance or incident.
- Runway 08R/26L is ILS CAT 3b instrumented.
- Runway 08L/26R is non-instrumented.

Airspace Design

- Runway 08L/26R is serviced by RNAV SIDs; there are no RNAV SIDs servicing the runway 08R/26L.
- Both runways share conventional Standard Instrument Departures (SIDs).
- Both runways are serviced by distinct RNAV Instrument Approach Procedures (IAPs).

Issues arising from the proposed change

Gatwick is seeking consent to secure the following:

1. Move the runway centreline datum of runway 08L/26R 12m northwards to ensure the required centreline spacing from runway 08R/26L in accordance with EASA specification CS ADR-DSN.B.050.

2. Introduce a dual runway mode of operation with following anticipated aerodrome and airspace changes:
    a. When operating in dual runway mode approximately 50 – 70% of departures, normally code C or smaller, would routinely use the repositioned 08L/26R runway. The initial track of these air traffic movements would be 210m further to the north.
    b. The remaining departures and all arrival traffic would utilise the 08R/26L runway resulting in no additional change.
    c. Dual runway operations will be operated using existing SID, Standard Arrival (STAR) and instrument approach procedures[1].

- As result of the above, Gatwick will require minor modifications to the airport's Aeronautical Information Publication (AIP) entry.
- In accordance with CAP1616 and to comply with DfT policy, Gatwick is required to initiate an airspace change process and request an assessment meeting with the CAA (Stage 1A).

[1] Gatwick's airspace may be subject to changes under the Airspace Modernisation Programme, which Gatwick is progressing in parallel under a separate fully comprehensive ACP.

Technical analysis

- From an airspace perspective, the 12m shift is not significant enough to require a change to the existing procedures for departures or arrivals.
- Departures will continue to use the existing, conventional SIDs from the northern runway and follow an initial track 12m offset to the north.
  - The 12m offset means the start of the first turn is also in a marginally different location, between 11m and 55m from the existing turn points (depending on the SID).
- Arrivals onto runway 08L/26R will use the existing RNAV approach which ends at just inside 2 nautical miles to end of runway on passing 830ft (AMSL) and continue the approach visually to the touchdown point repositioned 12m north.
- The air traffic operations, envisaged as a result of the Northern Runway Project, are not dependent on network changes being considered as part of the FASI South airspace change programme. We recognise that, if Gatwick proposes to introduce new procedures as part of the FASI South Programme, these will encompass dual runway operation requirements. FASI South is a separate Airspace Change Proposal.

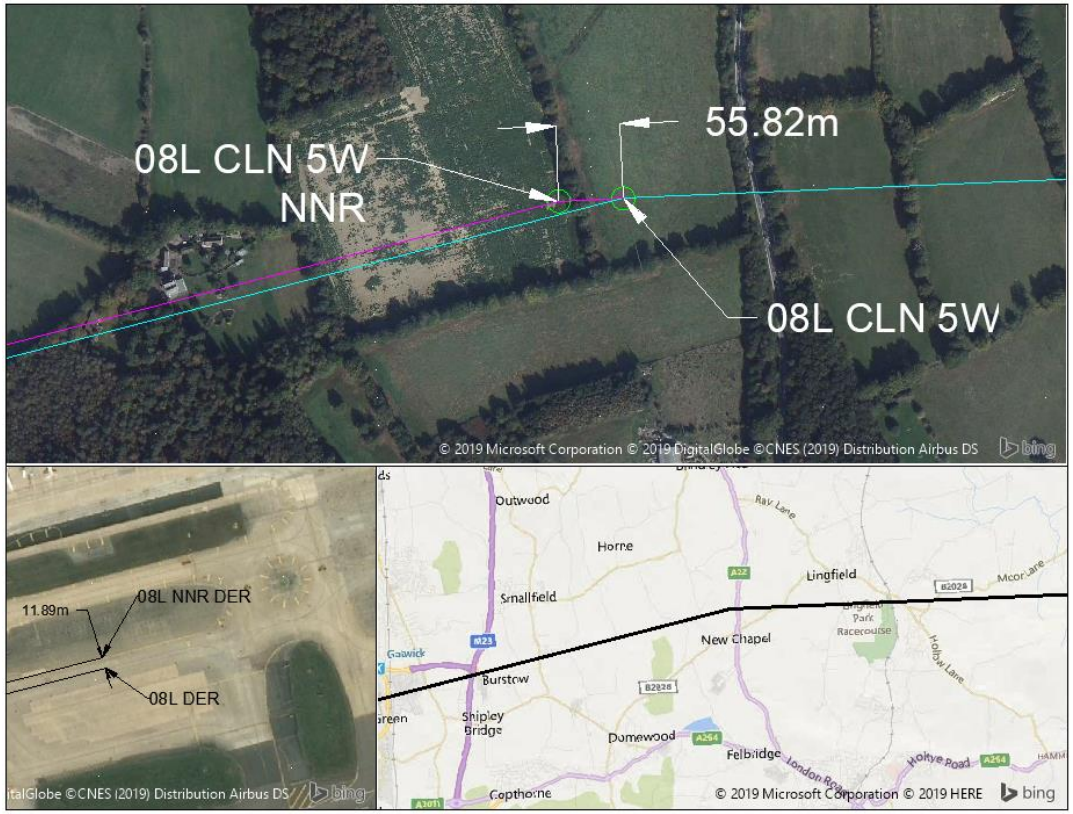
Technical analysis: differences in the departure tracks

Table 1 sets out the lateral shift in the first turn points, created by the 12m centreline move for each departure procedure from the northern runway.

Runway 08L		Runway 26R	
SID	**First turn point shift**	**SID**	**First turn point shift**
LAM 5W	11.76m	LAM 5V	12.17m
CLN 5W	55.82m	CLN 9V	12.17m
KENET 3W SAM 3W	11.78m	HARDY 5V BOGNA	12.46m
SFD 9W	11.81m	NOVMA 1V	49.42m
DVR 2W	55.82m	SFD 5V	12.24m
		WIZAD 4V	12.12m
		DVR 9V	12.17m
		TIGER 3V DAGGA 1V	12.12m

Table 1: Difference in first turn point of the Northern Runway Project tracks vs established tracks

Technical analysis: Marginal difference in departure track – 08L example

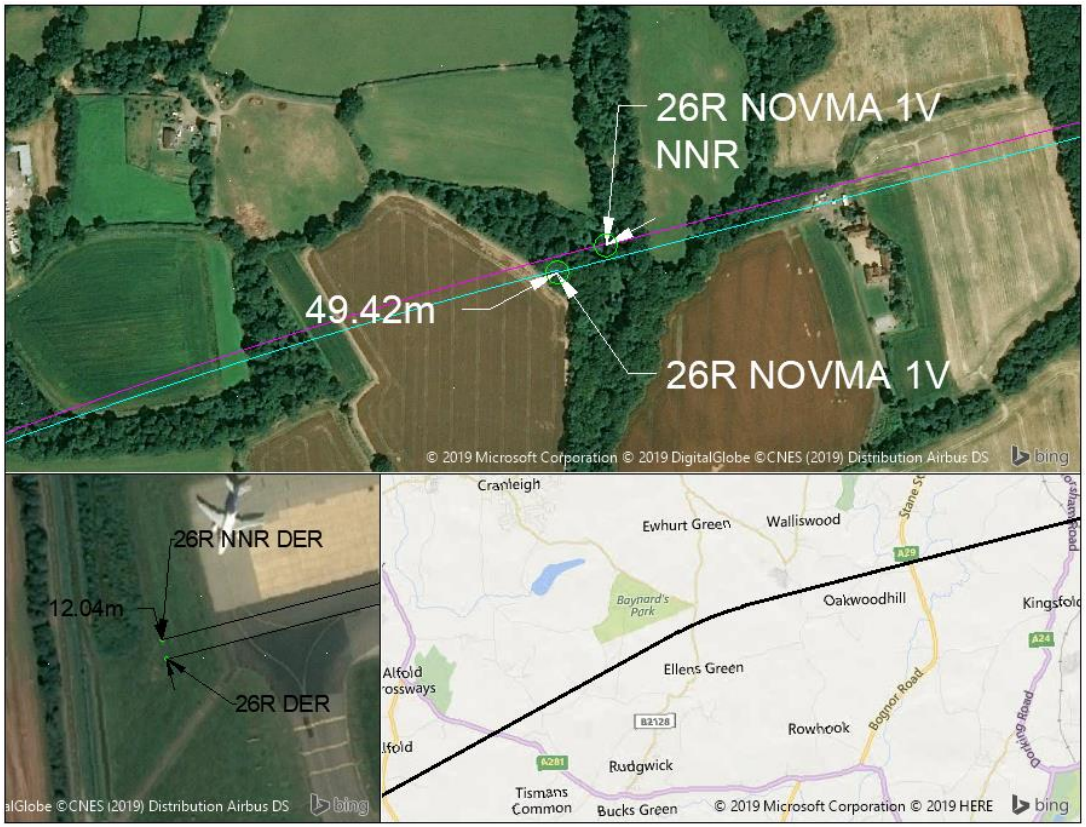


12m offset track for 08L CLN the impact on the first turn.
NNR refers to northern runway new SID track.
DER refers to departure end runway.

This example, for the CLN 5W SID on runway 08L is the largest of the eastbound track changes resulting from the Northern Runway Project change at 55m. The chart opposite illustrates the 12m offset and marginally different location of the start of the first turn.

The aircraft that will use the northern runway are between 35m and 68m wide and between 37m to 76m long. The 12m shift will not produce significant changes in the noise and visual effects outside the airport boundary.

Technical analysis: Marginal difference in departure track – 26R example



12m offset track for 26R NOVMA and the impact on the first turn.
NNR refers to northern runway new SID track.
DER refers to departure end runway.

This example, for the NOVMA 1V SID on runway 26R is the largest of the westbound track changes resulting from the Northern Runway Project change at 49.42m. The chart opposite illustrates the 12m offset and marginally different location of the start of the first turn.

The aircraft that will use the northern runway are between 35m and 68m wide and between 37m to 76m long. The 12m shift will not produce significant changes in the noise and visual effects outside the airport boundary.

Technical analysis: Marginal differences in the arrival tracks

There are two established approach procedures for both Runways 08L and 26R:

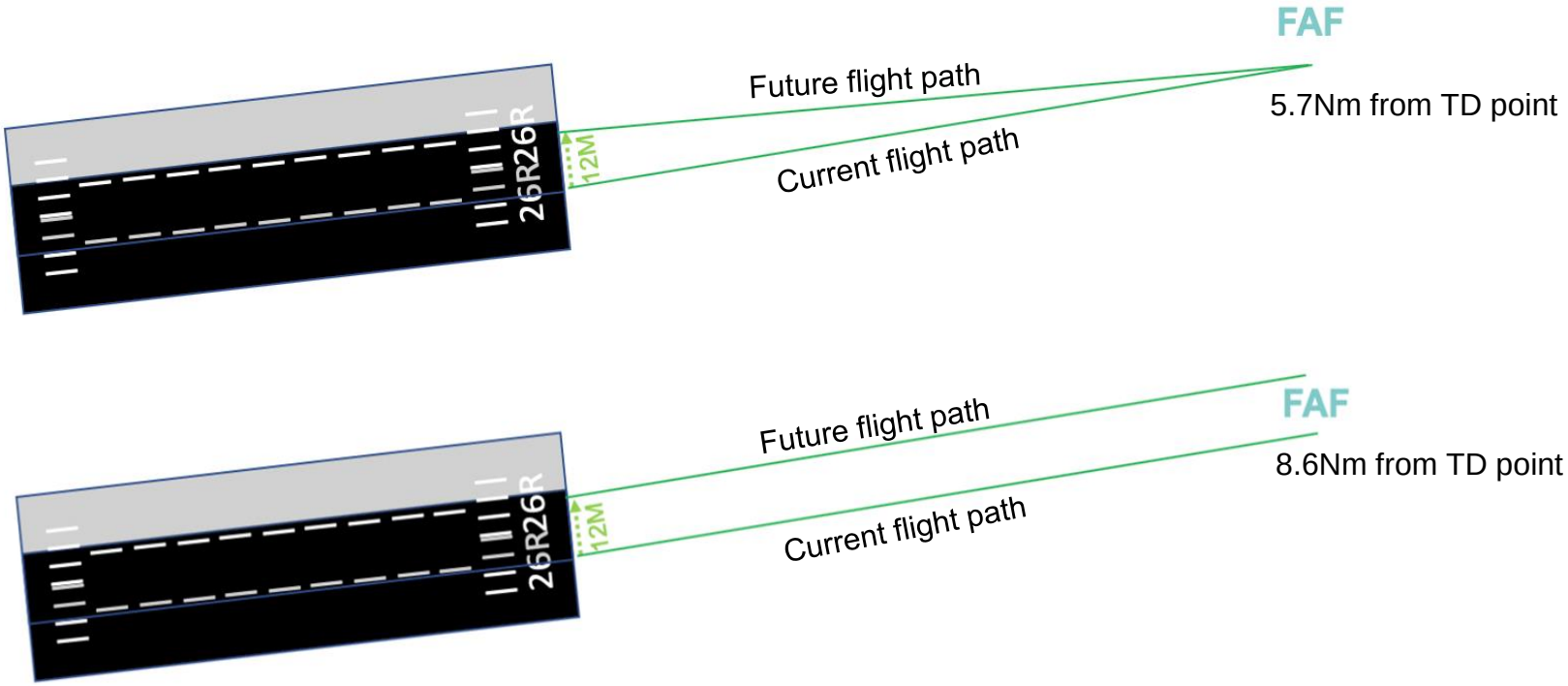
- One is a RNAV approach designed to a performance-based navigation (PBN) standard;
- The other is a conventional Surveillance Radar Approach (SRA).

None of the approach procedures is dependent on any ground-based navigation aids, or other fixed ground infrastructure (except for the radar itself, required for the surveillance radar approach, when the pilot is guided by the controller, rather than relying on the aircraft navigational equipment).

Following the 12m centreline move, the established final approach fix (FAF) will remain at the same point for both approach procedures*.

**the missed approach points will move 12 m in line with the runway move.*

Technical analysis: Marginal differences in the arrival tracks



The charts above illustrate the nature of the track changes for RNAV1 and SRA arrival procedures when runway 08L/26R is used as a fallback arrival/departure runway as it is today.

Proposed Level of airspace change

We believe the airspace changes generated by Northern Runway Project are commensurate with a Level 0 (zero) ACP.

- While they do not fall precisely within the examples in Table A2 of Appendix A to CAP 1616 the changes are comparable to those examples.
- The shift in the new flight tracks on departure is between 11m and 55m across the thirteen SIDs in use on the northern runway.
- The lateral shift in the new flight tracks on arrival is a maximum of 12m and less than 12m for the RNAV approaches.
- For context: The aircraft that will use the northern runway are between 35m and 80m wide and between 37m to 76m long. The 12m shift will not be perceptible to those on the ground.
- The qualifying remarks of the AIP will need to be updated, namely the adjustment of threshold coordinates (12m ≈ 0.0065Nm), the take-off distance available (TODA) and the originating point of the SID.
- Assurance of the routes and procedures as outlined above will be provided through the routine maintenance review (normally conducted every 5 years). We propose to conduct an out of schedule review 12 months after the proposal outlined here is implemented.

Do the Proposals constitute a “relevant PPR”

In addition to considering the relevant classification of Airspace Change we have in consultation with our ANSP (ANS) considered whether, proposed under the Northern Runway Project fall within the definition of a “relevant planned and permanent redistribution” (PPR) of traffic. As explained in the table below we believe it does not. Even if it did it would fall to be dealt with under CAP1616 as it results from the change to the qualifying remarks.

PPR Type	Is the process for relevant PPR applicable?
1. Lateral shift in flight track greater than 300m at 1000ft. Other criteria at higher altitudes also apply	**Not applicable.** New flight tracks across the ground will shift laterally between 11m and 55m as a result of the changes of the Northern Runway Project. Some departures will move from the main runway to the northern runway (210m north). This change does not meet the criteria of 300m at 1000ft or the criteria at higher altitudes.
2. Redistribution of flights between SIDs greater than 5000 movements.	**Not applicable.** Flights from the northern runway will use all existing SIDs under dual runway operations.
3. Change to the ILS joining point.	**Not applicable.** There is no ILS on the northern runway. Arrivals will use the same transitions & final approach fix.

Opportunities from the proposed changes

- In Gatwick's view, the proposed changes do not require any modifications to the established arrival and departure procedures that are currently in use.

Proposed ACP Schedule

Indicative timescales:

DCO Public Consultation – Q2 / Q3 2020;

DCO submission – 2021;

DCO examination – 2021;

DCO decision – 2022;

Expected implementation – 2026.

Next Steps

1. CAA Decision – 7 days.
2. Meeting minutes ( ) – 14 days.
3. Next steps based on the outcome of the assessment meeting and CAA decision.