

BIGGIN HILL AIRPORT 21 RNAV AIRSPACE CHANGE

ACP-2019-86: Stage 2 Design Options Development

NERL Response

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NATS

Prepared by:



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1. Introduction

NERL welcomes the opportunity to provide comment on proposed options for a RNAV approach to runway 21 at London Biggin Hill. NERL appreciate the facilitation by the Sponsor of the briefing session and HazID session that took place in April 2021 and the comments within this document reflect the feedback that was provided within those sessions.

Whilst the Design Options Development submission does provides the evidence of considering many options, NERL do not believe the Sponsor has taken sufficient consideration of the agreed Design Principles, as required by the CAA. In answer to *“that they are satisfied that the design options are aligned with the design principles and that the change sponsor has properly understood and accounted for stakeholder concerns specifically related to the design options”*, then NERL are inclined to say **NO**. It is specifically Design Principles 1, 5 and 6 that NERL have feedback against and have provided supporting comments on each approach option below.

Priority		Category	
1	SAFETY - New routes must be safe and must not erode current ANSP safety barriers	CORE	Safety
2	ENVIRONMENTAL CONCERNS - Arrival routes should, where possible, be designed to minimise the impact of noise below 7,000' and should avoid the overflight of populations not previously overflown	CORE	Environmental
3	COMPLIANCE - Routes should, where possible, be designed to be PANS Ops compliant	CORE	Technical
4	NAVIGATION STANDARDS - New routes must be designed to use PBN	CORE	Operational
5	EFFICIENT ROUTES - Arrival routes should, where possible, be designed to minimise emissions and optimise operational efficiencies	CORE	Environmental
6	REPLICATION - Procedure should, where possible mimic the existing procedure and/or the existing ILS positioning by ATC vectors	CORE	Environmental

- **Design Priority 1**
 - Arrival Options 5-7 reduce the separation from London City Operations therefore would require mitigations which would no doubt increase complexity and workload to both Thames Radar and London City Tower.
 - Missed Approach Option 10 penetrates the Gatwick CTA.
- **Design Priority 5**
 - Arrival Options 2-4, are not efficient due to track mileage which is easily rectifiable by the use of the straight segment.
- **Design Priority 6**
 - Arrival Options 2-7 whilst remaining within most of the existing arrival swathe do not align with the normal vectoring profiles for aircraft utilising the ILS.

NERL appreciates the opportunity to continue being an active stakeholder in the development and introduction of an RNAV approach to Runway 21 at Biggin Hill. As the provider of the Approach Radar Service for Biggin Hill, NERL will continue, where possible, to provide operational expertise input as required throughout the ACP process.

2. Comments on Proposed RNAV Arrival Options

2.1. Option 1

- No comment

2.2. Option 2 and sub options

- It appears that there is sufficient radar separation from London City Arrivals track (RWY27) however the assurance of Route separation will need be confirmed by the sponsor.
- It is not understood why the replication of the VOR approach has been put forwards, it is unduly complicated in its lateral profile and introduces additional track mileage compared to the use of the ILS.

2.3. Option 3 and sub Options

- It appears that there is sufficient radar separation from London City Arrivals track (RWY27) however the assurance of Route separation will need be confirmed by the sponsor.
- It is not understood why the replication of the VOR approach has been put forwards, it is unduly complicated in its lateral profile and introduces additional track mileage compared to the use of the ILS.

2.4. Option 4 and sub options

- It appears that there is sufficient radar separation from London City Arrivals track (RWY27) however the assurance of Route separation will need be confirmed by the sponsor.
- It is not understood why the replication of the VOR approach has been put forwards, it is unduly complicated in its lateral profile and introduces additional track mileage compared to the use of the ILS.

2.5. Option 5 and sub options

- It appears that none of the proposed lateral profiles provide sufficient radar separation (3nm) from London City RWY27 arrivals final approach and will require additional spacing between London City Arrivals on final approach in order to create a gap for the Biggin Arrivals.
- Separation from London City RWY 09 departures will need to be assessed as the distance is very close to radar separation minima.
- It is assumed that route separation requirements will not be achieved between London City and Biggin Hill with these options to allow independent operations.
- IAF North is not viable without impact to London City arrivals and departures. Connectivity to network (OSVEV) also needs to be considered

2.6. Option 6 and sub options

- It appears that none of the proposed lateral profiles provide sufficient radar separation (>3nm) from London City RWY27 arrivals on final approach and will require additional spacing between London City Arrivals on final approach in order to create a gap for the Biggin Arrivals.
- Separation from London City RWY 09 departures will need to be assessed as the distance is very close radar separation minima.
- It is assumed that route separation requirements will not be achieved between London City and Biggin Hill with these options to allow independent operations.
- IAF North is not viable without impact to London City arrivals and departures. Connectivity to network (OSVEV) also needs to be considered

2.7. Option 7 and sub options

- It appears that none of the proposed lateral profiles provide sufficient radar separation (>3nm) from London City RWY27 arrivals final approach and will require additional spacing between London City Arrivals on final approach in order to create a gap for the Biggin Arrivals.
- It appears that that there is insufficient separation from London City RWY 09 departures.
- It is assumed that route separation requirements will not be achieved between London City and Biggin Hill with these options to allow independent operations.
- IAF North is not viable without impact to London City arrivals and departures. Connectivity to network (OSVEV) also needs to be considered

2.8. NERL Suggested Option

- NERL has one suggestion they would like to put forwards that combines the options above. A straight segment from OSVEV, which would then turn on to final approach, joining the final approach track in a location similar to that in Options 2B, 2BD, 2C and 2CD. The Straight section from OSVEV to the final approach turn should overlay the LCY ODLEG RNAV Transition route. This suggestion hasn't been assessed to ensure conformity to PANS OPS, NERL would expect the Sponsor to carry out such activities.



2.9. General Comments

- Any Options carried forward should ensure that sufficient separation is provided between Biggin Hill arrivals and London City RWY 27 arrivals and RWY 09 departures in order to ensure the two airports can operate independently where possible with minimal impact to each other. Where this cannot be met then agreement between London City and Biggin Hill will need to be made.
- All Glideslope approach angles are acceptable on the assumption the vertical profile starts no higher than 3000ft amsl in the vicinity of OSVEV. Initially NERL did not understand why a 3.5° wasn't compatible with the existing ILS, however the Sponsor has been able to provide sufficient information to help NERLs understanding and NERL are in agreement with the rationale.

3. Comments on Proposed Missed Approach Options

3.1. Option 8

- No comment.

3.2. Option 9

- Acceptable lateral and vertical profile to enable minimal changes to Thames Radar method of operating.

3.3. Option 10

- The design will penetrate the Gatwick CTA, complications will arise with who has controlling authority for that portion the aircraft will be in the Gatwick CTA and RMA.
- Separation requirements from Gatwick Runway 08 Departures will need to be assessed.
- Separation requirements from Gatwick Runway 26 arrivals will need to be assessed.

3.4. Option 11

- Will not penetrate the Gatwick CTR
- Acceptable lateral and vertical profile to enable minimal changes to Thames Radar method of operating.

3.5. Option 12

- Will not penetrate the Gatwick CTR
- Acceptable lateral and vertical profile to enable minimal changes to Thames Radar method of operating.