


# Report of the CAA's Draft Decision on the Post Implementation Review of London Gatwick's Airspace Change Proposal – Runway 26 Route 4 RNAV-1 Standard Instrument Departure Procedures

CAP 1872



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# Glossary

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This document refers to a number of terms and descriptions of airspace that are described in as simple terms as possible as follows; although they are not all the subject of this decision, they provide useful context.

**SID:** Standard Instrument Departure - published flight procedures followed by aircraft on an Instrument Flight Rules (**IFR**) flight plan immediately after take-off.

**Noise Preferential Route:** A Noise Preferential Route (NPR) is a path for aircraft to take until they reach a specific release altitude. Once an aircraft reaches the NPR release altitude, Air Traffic Control (ATC) can instruct the aircraft to turn onto a more direct heading to its destination, this is called vectoring, which, may take the aircraft outside the NPR corridor (normally defined as a swathe for track keeping monitoring purposes). There may be occasions where it is necessary for safety reasons (e.g. to avoid severe weather conditions) for ATC to vector aircraft off NPRs below the release altitude.

**PBN:** Performance Based Navigation - a system of navigation more reliant on airborne technologies, utilising area navigation and global navigation satellite systems.

**Area Navigation (RNAV):** Area navigation is a method of navigation which permits aircraft operation on a desired flight path without constraints of ground-based navigation aids. Area navigation is an enabler for Performance-based navigation (PBN), which is defined as a type of area navigation (RNAV) in which the navigation performance requirements are prescribed in navigation specifications.

**RNAV SID:** A SID utilising PBN to fly the aircraft. A pilot will rely on satellite navigation (similar to GPS) to automatically guide an aircraft along a route. Due to the use of highly accurate PBN, this will produce more consistent track over the ground.

**2013 RNAV SID:** The RNAV SID introduced by an airspace change proposal (ACP) from Gatwick Airport in 2012 and published in the UK Aeronautical Information Publication (AIP) for use from 14 November 2013 intended to be a replication of the conventional SID. A visual representation of this route is at [Annex C](#). This conventional SID route was in place between 30 November 2012 and 19 July 2017.

**2016 RNAV SID:** The RNAV SID that was required by the Post-Implementation Review as a better replication of the conventional SID. A visual representation of this route is at [Annex D](#). The Route 4 RNAV-1 SIDs were implemented on 26 May 2016 and have remained in use since then. It is this route, and only this route, that is

the subject of this decision. It's AIP designation is LAM2X/BIG2X/FRANE1X/ADMAG2X.

**Conventional SID:** A SID described with reference to specific fixes predicated on a ground based navigation aid that a pilot will use to manually fly the aircraft along the route. For example, in the case of Route 4 fly “straight ahead until I-WW D 2.3 then turn right to intercept the Detling VOR radial” by a certain distance. Because of the nature of the instructions and handling characteristics of aircraft, aircraft will not all follow the exact same path over ground.

**2012 Conventional SID:** The conventional departure route from Gatwick Airport taking off in a westerly direction and turning to the right 180 degrees and following an easterly track approximately 800 metres north of the centreline of the NPR. A visual representation of this route is at [Annex E](#). This route, or routes, that followed the same track over the ground were in place at the time of the original airspace change proposal submission - 30 November 2012 - and until a revision on 20 July 2017.

**2017 Conventional SID:** A conventional departure route from Gatwick Airport taking off in a westerly direction and turning to the right 180 degrees and following an easterly track that followed the centreline of the NPR. A visual representation of this route is at [Annex F](#). This route was in place between 20 July 2017 and 11 September 2019.

**2019 Conventional SID:** A conventional departure route from Gatwick Airport that follows the same path over ground as the 2012 Conventional SID and routes via position ACORN. This SID was implemented on 12 September 2019. A visual representation of this route is at [Annex G](#).

## Scope

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1. This decision contains an assessment by the CAA as to whether the 2016 RNAV-1 SID implemented on 26 May 2016 has achieved, to an acceptable standard, its original stated aim. That is, whether the extant 'temporary' RNAV-1 SID (LAM 2X, BIG 2X, FRANE 1X<sup>1</sup>, ADMAG 2X<sup>2</sup>) is a satisfactory replication of the conventional SIDs (as available from 12 September 2019).
2. This decision relates only to the 2016 RNAV-1 SID and does not affect the conventional SIDs on that route.
3. The decision brings to a close the Airspace Change Process brought by Gatwick Airport on 30 November 2012 to introduce the RNAV-1 SID on Route 4.

## Background

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4. The CAA's former airspace change process is a seven-stage process that is set out in detail in CAP 725<sup>3</sup>. Under this process, in 2012 London Gatwick Airport Limited (GAL) submitted proposals to the CAA to implement new RNAV-1<sup>4</sup> Standard Instrument Departure (SID) procedures. The purpose of the proposal was to replicate and eventually replace the standard instrument departure routes (SIDs) from Gatwick Airport with more accurately defined routes, utilising the improved navigational capabilities of modern aircraft (Precision Area Navigation: P-RNAV).

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<sup>1</sup> The FRANE1X is a truncated (i.e. shortened) version of the original CLACTON SID.

<sup>2</sup> The ADMAG2X is a truncated (i.e. shortened) version of the original DOVER SID.

<sup>3</sup> Whilst the CAP725 airspace change process has been replaced by the revised CAP1616 process, this decision brings a conclusion to the Route 4 airspace change conducted under CAP 725.

<sup>4</sup> Performance-based navigation (of which RNAV-1 is a type) is satellite aviation guidance; in comparison to ground-based navigation aids (such as those used by conventional SIDs) performance based navigational technology will allow aircraft to fly much more accurate and flexible tracks. Satellite guidance will also allow the UK's complicated and busy airspace to be redesigned, increasing capacity and efficiency while maintaining or enhancing safety performance. A route structure optimised for satellite guidance with aircraft flying a pre-programmed trajectory will also reduce the need for tactical intervention by air traffic controllers to instruct pilots to change direction, bringing down the cost of air traffic control, and optimise the climb and departure profiles of aircraft (which is the most expeditious routing of aircraft so far as airlines are concerned, and which also burns the least fuel and overall causes the least noise).

5. It should be noted that, although both Conventional and RNAV SIDs were in place from the time the ACP was approved and implemented in 2013, the vast majority (over 99%) of aircraft utilise the RNAV Routes and very few aircraft now fly Route 4 using conventional navigation.
6. The airspace change was approved by the CAA on 14 August 2013 for implementation on 14 November 2013. As required under CAP 725, a Post Implementation Review (PIR) was conducted after a period of operation, the results of which were published on 11 November 2015 in [CAP1346](#). An outcome of that PIR required a modification to the Route 4 RNAV-1 SIDs:

*“The CAA requires modifications to the design of the RNAV-1 SID on this route to achieve an initial turn that is closer to the existing nominal track of the existing conventional SID and, if successful, we consider this will also have the effect of bringing the mean track of the final north-easterly leg of the traffic on the SID further south, further away from communities such as Leigh, Reigate and Redhill, that is more in line with where we expected traffic to be and as was the case prior to the introduction of the RNAV-1 SIDs”<sup>5</sup>*

7. Following that modification, the CAA would review the RNAV-1 SID and make a determination as to whether it had achieved, to an acceptable standard, its original stated aim:

*“If an acceptable modified design is submitted and once it has been implemented and operated for six months the CAA will conduct a further assessment as part of this PIR. At its conclusion, if the CAA is of the view that the modified RNAV-1 design has not achieved, to an acceptable standard, its original stated aim, then that RNAV-1 SID route will not be confirmed and will be de-notified by the CAA, i.e. removed from the AIP. That will be the end of the airspace change process commenced by Gatwick’s airspace change request dated 30 November 2012 (as amended 9 January 2013) in respect of the Route 4 SIDs.*

*If that occurs, unless and until a revised RNAV-1 SID design (put forward by Gatwick under a new airspace change proposal process) is*

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<sup>5</sup> CAP1346 at 9.50

*approved by the CAA, the only SIDs on Route 4 will be the extant conventional SIDs.”<sup>6</sup>*

8. A modified Route 4 RNAV-1 SID design (the 2016 RNAV SID) was subsequently submitted by GAL to the CAA for approval; this design was approved by the CAA and implemented on 26 May 2016. Following this implementation, a period of operational track keeping data was required to enable a further PIR in order to determine whether the modified Route 4 design was a better replication. Further post implementation data was submitted to the CAA to enable the CAA to determine if the modified design was a satisfactory replication of the conventional SID of 2012.
9. On 7 April 2017 the CAA published its decision in [CAP1531](#) to the extent that the modified RNAV-1 SID was a satisfactory replication and to approve a change to the conventional SIDs to align the easterly leg with the centreline of the NPR (the 2017 Conventional SID). However, on 9 February 2018 that decision was subsequently revoked by [CAP1531LETA](#), as during the process of responding to judicial review litigation, the CAA conducted detailed investigations into the history of the conventional SID and the changes that had occurred since records were available. In particular, why the easterly leg was displaced approximately 800 metres to the north of the centreline of the NPR. CAP1531 was based on the understanding that the discrepancy was a result of magnetic drift, however the investigation revealed that the displacement had been introduced as a result of the UK's change of geodetic reference system in 1999. Consequently, the CAA considered that it could not allow its decision in [CAP1531](#) to stand where such decision was based upon a misunderstanding of the relevant facts. This was recorded in an order of the Court dated 7 February 2018.
10. In order to effect the quashing of the decision of 7 April 2017, the CAA wrote to Gatwick Airport on 9 February 2018. We advised that;

*“The practical effect of the quashing of the decision is that it is as if the decisions to confirm the published Runway 26 Route 4 RNAV-1 SIDs notified in the AIP as permanent and to approve the revised conventional SIDs submitted to the CAA in March 2017 were never made. Consequently, the RNAV route remains in its current location and reverts to its temporary state as it was on 6 April 2017 and the*

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<sup>6</sup> CAP1346 1.3



*Route 4 conventional SIDs must return to their location as at 6 April 2017 or be denotified.*

11. From feedback received by the CAA (see [Annex A](#)) it is clear that the letter of 9 February 2018 caused some confusion. That letter, and the quashing of the 7 April 2017 decision meant that:
  - 11.1 The conventional route would return to its alignment which existed at the time of the original change proposal submission in 2012. For safety reasons this could only occur following a review of the conventional SID (as set out as a regulatory requirement of the ACP in the CAA's decision letter of 14 August 2013). This review refers to the periodic requirement (normally every 5 years) for airports with Instrument Flight Procedures to review the SID designs to ensure they remain fit for purpose; for example, this requirement takes into account the need to check annual obstacle data to assure adequate terrain clearance is maintained.
  - 11.2 Additionally and separate to the review described in 11.1, GAL were required to determine whether the conventional SID should align with the NPR or should remain in its 2012 location or something else (as determined by the CAP 1616 Airspace Change process). For a visual representation of the difference between these two locations, see the charts included in the annexes listed at the end of this report.
12. In compliance with the requirement described at 10.1 the 2019 Conventional SID design was reviewed by an Approved Procedure Design Organisation (APDO) and submitted to the CAA Instrument Flight Procedure (IFP) Section for CAA approval in line with CAP 785 IFP 5 year review requirements on 29 May 2018. On 15 March 2019 the CAA approved the 2019 Conventional SID (designated as the CLN1M/1V, DVR1M/1V, LAM6V/6V) for publication in the AIP consistent with the location of the SID as it was prior to submission of the ACP. These SIDs were published for use from 12 September 2019. The CAA notes that the review of the SID undertaken at this time was consistent with ICAO 5 year review requirements.
13. Following a written exchange with GAL in June 2019, GAL wrote to the CAA in July 2019 confirming that it would not carry out a further airspace change proposal regarding the Route 4 conventional SID (see 10.2 above) given that it would confuse the public and create consultation fatigue. A copy of this letter is at [Annex B](#).

14. The CAA accepted this position as we are unable to compel GAL to undertake an airspace change. The effect of this position is that the conventional SID will remain published as it was in 2012 (now, the 2019 Conventional SID) before the RNAV-1 ACP was submitted until it is no longer required for operational use. The 2019 Conventional SID is now a permanent SID.
15. Our letter of 9 February 2018 closed by stating:

“Once the Route 4 conventional SIDs have been corrected, as set out in the CAA’s letter of 28 September 2015, the CAA will remake its decision as to whether the RNAV design has achieved, to an acceptable standard, its original stated aim. If it does not, then that RNAV route will not be confirmed and will be de-notified by the CAA, i.e. removed from AIP. That will be the end of the airspace change process commenced by GAL’s airspace change request dated 30 November 2012.”

16. The CAA is therefore now making its decision in relation to whether the modified 2016 RNAV-1 SID has achieved, to an acceptable standard, its original stated aim.

## **Track over ground of the conventional SID**

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17. The aim of the 2013 RNAV-1 SID design was to replicate the conventional SID. A PBN SID replication is defined as

*“The design of an RNAV or RNP procedure that follows the path over the ground of the nominal track of the existing conventional procedure as closely as possible”. Note: it is the path over the ground of the designed conventional procedure and not the nominal centreline of the associated NPR or the current traffic concentration.”<sup>7</sup>*

18. It was noted that the path over the ground of the designed 2019 Conventional SID does not align with the NPR. As determined following the CAA’s decision of 7 April 2017, this was as a result of an error introduced in 1999 during the migration to WGS co-ordinates and the impacts of Gatwick

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<sup>7</sup> Directorate of Airspace Policy 19 August 2013 Policy Statement guidance on PBN SID replication for conventional SID replacement at 3.1 and SARG 23 March 2018 Policy Statement policy for replication of conventional SIDs, STARs and Holds using PBN.

Airport not reviewing the SIDs over time which led to a displacement of the nominal track of the conventional SID away from the NPR in December 1999 where it then stayed until the first implementation of the 2013 RNAV SID in this ACP of 2012.

19. The aim of the 2019 conventional design review of the conventional SID (now the LAM 6M/6V, CLN 1M/1V, DVR 1M/1V designations) was to return it to the nominal track in use at the time of the 7 April 2017 decision which is also coincident with the ACP implementation in 2013 as described in the glossary above. The 2019 conventional SID which became effective on 12 September 2019, effectively re-instated the conventional SID flown at the time of the ACP implementation on 14 November 2013. However, as the vast majority of aircraft departing Gatwick Airport utilise RNAV, rather than conventional navigation the CAA also notes that traffic has not flown the conventional SID route in any significant volume since 2013.

## Track analysis

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20. In completing our analysis it was necessary to determine whether the 2016 RNAV-1 SID was a satisfactory replication<sup>8</sup> of the 12 September 2019 Conventional SID and it was appropriate to compare the AIP charts and traffic patterns of the respective SIDs and arrive at a conclusion. The relevant charts are shown at the Annexes to this report.
21. The track of the 12 September 2019 Conventional SID is described in the AIP as:
  - The initial departure track is “Straight ahead until I-WW d2.3”.
  - A wrap-around turn is initiated to intercept the Detling (DET) radial 259 by DET d31.
  - At DET d31, the eastbound track continues along the DET radial 259 through ACORN, after which the SID either routes to LAM (remaining on the radial 259 to DET d10.5, or to Clacton (CLN)<sup>9</sup> and Dover (DVR)<sup>10</sup> turning at ACORN onto the DVR radial 278. At DVR d31.9, the CLN SID has a turn towards DET, and after DET routes to DAGGA then CLN.

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<sup>8</sup> as defined above

<sup>9</sup> Note: the RNAV version is now truncated at FRANE.

<sup>10</sup> Note: the RNAV version is now truncated at ADMAG.

- The eastbound track from DET d31 to ACORN is displaced to the north of the NPR by up to approximately 0.5NM as departing aircraft proceed further east.
22. When examining the track of the 2016 RNAV-1 SID it was confirmed that:
- The initial departure track to KKW02 (equivalent to I-WW d2.3) is a satisfactory replication.
  - The wrap-around turn to intercept KKE 09 is a satisfactory replication only for the start and middle section of the turn. As KKE09 is a position on the NPR, the end of the turn is intercepting a track which differs to the required track (DET R259) of the conventional SID, therefore this is not a satisfactory replication.
  - The subsequent eastbound track of 078 degrees to KKE15, is not a satisfactory replication as this track is aligned on the NPR, as by the end of the NPR the nominal track of the RNAV-1 SIDs are approximately 0.5NM south of the 12 September 2019 conventional SID.
23. The actual flightpaths achieved by departing aircraft since June 2013 and with subsequent changes after the airspace change was implemented on 14 November 2013 are shown at [Annex H](#).
- Slide 2 shows the traffic pattern of the conventional SIDs in June 2013 before the change was implemented in November 2013.
  - Slide 3 shows the traffic pattern of the RNAV SIDs flown in June 2014. This SID was subsequently replaced with the RNAV SID design of 2016.
  - Slides 4 and 5 show the traffic patterns of the RNAV and conventional SIDs in July 2016.
  - Slide 6 shows the traffic pattern of the conventional SID as flown during all of September 2019. This traffic sample pattern shows a small number of departures using both conventional SID designs of 20 July 2017 and the most recent revision of the conventional

SID made on 12 September 2019. Whilst this sample only shows 40 departures in total, after the initial turn towards the east, two distinct patterns of departures are evident on the eastbound track – one along the NPR (the 2017 design) and one aligned on the northern part of the NPR monitoring swathe (north of Salfords) which is from the 2019 design.

Note: the format of Slides 6, 7 & 8 are different to previous slides due to a system change of the Gatwick Noise and Track Keeping software.

- Slide 7 shows the traffic pattern of the 2016 RNAV SID design during the period of October 2019 (3324 departures).
  - Slide 8 shows the traffic pattern of the 2019 conventional SID design during the period of October 2019 (37 departures).
  - The comparison between traffic patterns of the 2016 RNAV SID design with the re-instated conventional SID of July 2016, that is, the SID design of 12 September 2019, can be made when comparing Slides 4 and 7 with Slide 8.
24. Consequently, when reviewing both the SID charts and the actual traffic patterns, we have concluded that the 2016 RNAV-1 SID has not achieved replication of the conventional SID to an acceptable standard as once the turn towards the east has been completed, the core eastbound track of the RNAV SID is aligned along the NPR (evident in Slides 4 and 7) which is approximately 800m south of the track of the conventional SIDs

## Noise Preferential Route

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25. The CAA decision of 14 August 2013 included a requirement for GAL to review and assess whether the Route 4 RNAV-1 SID route alignment met the parameters of the outcome of the Department for Transport's consultation of 25 June 2013 on proposed new guidance from the Secretary of State to the CAA on its environmental objectives (the Guidance), which included changes to the definition of an NPR. At the time of the CAA decision, the Guidance was expected to allow SID route alignment that is not coincident with the NPR itself<sup>11</sup>. The CAA requirement in the 14 August

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<sup>11</sup> Note: this is the NPR and not the NPR monitoring swathe.

2013 decision also required GAL to consult within a 12 month period, commencing from the publication date of the new Guidance to the CAA, on any changes necessary to ensure that Route 4 did meet the parameters of NPR as defined within the new Guidance.

26. Following the 2013 DfT consultation, whilst the parameters (anticipated at the time of our 14 August 2013 decision) were not adopted and published in the 2014 Guidance, on 23 May 2014, GAL nevertheless conducted consultation<sup>12</sup> on options for NPR re-definition in conjunction with the NATS London Airspace Management Programme Phase 1A airspace change development. This consultation provided options for the Route 4 NPR definition based on the alignment of the Route 4 RNAV-1 SID implemented in November 2013.
27. However, following that consultation, GAL suspended its plans for that particular airspace development, and as a consequence, those options for NPR re-definition were not progressed by GAL. Whilst the modified Route 4 RNAV-1 SID design implemented in 2017 (the LAM2X/BIG2X/ADMAG2X/FRANE1X designations), and the conventional SID implemented in 2018 (the 5M/5V designations) returned the Route 4 SID alignment to the alignment of the NPR, since the conventional SID route alignment has now been returned to the alignment of the SID prior to the airspace change of 14 November 2013 (an outcome of the Court decision to quash the CAA decision of 7 April 2017 regarding the modified Route 4 RNAV-1 SID), we note that the Route 4 conventional SID (the LAM 6M/6V and CLN/DVR 1M/1V designations) is no longer aligned with the NPR.
28. The discrepancy of the Route 4 conventional SID not aligning with the NPR is a matter for GAL to resolve with the DfT. However, we also note that GAL has already initiated a new airspace change for a Route 4 RNAV-1 SID<sup>13</sup> and we would recommend that GAL addresses the NPR alignment with the DfT and include any proposals for NPR re-definition in that change proposal, that is, if there is a requirement to have the NPR re-defined. This would also necessitate consideration for the Route 4 conventional SID and whether it can be left on its existing alignment or removed (de-notified) should the new change proposal be completed successfully and implemented following the

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<sup>12</sup> This consultation was the second consultation of LAMP Phase 1A concerning the Gatwick Local Area.

<sup>13</sup> ACP-2018-86.

appropriate consultation by GAL and any subsequent decision by the CAA in due course.

29. We would emphasize that the matter of the NPR alignment is a matter for GAL to agree with the DfT in accordance with the Air Navigation Guidance 2017 (paragraph 5.17).

## Safety

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30. The 2019 Conventional SIDs have been reviewed by an APDO, meet International Civil Aviation Organisation (ICAO) and CAA IFP design review requirements. The CAA is therefore satisfied that a high standard of safety has been maintained in the conventional SID review and with the subsequent CAA approval of the reviewed SIDs the long-standing requirement for the SIDs to be reviewed has been completed.

## Air Navigation Service provision

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31. The implementation of the 2019 Conventional SIDs will have no impact on air navigation service provision, although we would highlight that the SID end position will be the original end positions of Clacton and Dover SIDs and not the truncated positions of the RNAV 1 SIDs, FRANE and ADMAG respectively. This is highlighted below under de-notification actions. The impact of this is means that enabled flight plannable fuel savings for some particular operators on these two SIDs will no longer be realised.

## Feedback

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32. The CAA has received feedback from concerned community groups in relation to the finalisation of the 2012 ACP on Route 4 (see [Annex A](#)). The CAA has considered the content of these letters in coming to its decision.
33. In order to provide all stakeholders with the opportunity to comment on this decision the CAA is publishing this decision in draft and will allow a period of 28 days for the receipt of further comments.
34. In order to submit comments stakeholders must follow the process below otherwise feedback will not be considered.



- 34.1 If stakeholders believe we have missed, misunderstood or misinterpreted anything in the report on the PIR, they should visit our dedicated consultation website <https://consultations.caa.co.uk/safety-and-airspace-regulation-group/gatwick-route-4-pir-feedback/> to provide further information. We are asking for comments before 3 February 2020 and cannot commit to taking into account comments received after this date.
- 34.2 Please note that the CAA is asking for comments on the draft report of our PIR, not about the merits of the original decision itself.

## Environmental Impacts

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35. The effect of this decision is that the Route 4 RNAV-1 SIDs will be de-notified with the consequence that aircraft departing Gatwick flying the 'Route 4' procedures will revert to flying the conventional SID. This means that the track flown over the ground should be similar to what was flown before the Route 4 RNAV-1 SIDs were first implemented. However, given that the coded overlay of the conventional SID into the aircraft navigation data base, which is then loaded into the aircraft Flight Management System (FMS) is a global un-regulated process, there may be some variance with track dispersion as was seen with the track dispersion and track density plots prior to the introduction of the RNAV-1 SIDs, although once at 4000ft (amsl) and above, aircraft may be radar vectored by ATC so departure traffic patterns will continue to be variable depending on the position of other traffic and the time of day/night.
36. A result of the resumption of flying the 2019 Conventional SID track via ACORN will mean that the track aircraft follow over ground is north of the current RNAV-1 easterly track, hence, there will be an expected displacement of departures flying the 2019 Conventional SID<sup>14</sup> following this ground track to the north, which will be back to what it was before the RNAV-1 SIDs were implemented.
37. No environmental assessment has been conducted in reaching this decision to reject the 2012 ACP insofar as it relates to Route 4, nor is it required to be conducted as the decision effectively returns aircraft departure tracks back to what they were before the change was implemented in November 2013. As a consequence, we would highlight that there will be a reversion in overflight (back to the situation prevailing before the airspace change implementation

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<sup>14</sup> The 2019 conventional also had a speed restriction around the first turn of a maximum of 220KIAS to reduce 'ballooning' around the first turn.



in November 2013) at some locations (most likely north of Horley), as departing aircraft turn onto the eastbound track to ACORN which will result in an approximate 0.5NM displacement of the core traffic pattern by the time departures reach the end of the NPR monitoring swathe. However, some locations may see no change in overflight, either due to the initial straight ahead segment following departure, the initial turn north before turning to intercept the easterly track towards ACORN, or where aircraft departures are radar vectored by ATC. As aircraft may be vectored by Air Traffic Control when reaching 4000ft amsl, and as the requirement for vectoring is dependent on the proximity of other traffic arriving to, and departing from aerodromes in the London area, traffic patterns may continue to vary depending on traffic density and the time of day or night.

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# Conclusion

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## Conclusion

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38. As a result of our analysis in determining that the modified Route 4 RNAV 1 SID implemented on 26 May 2016 is not a satisfactory replication of the Route 4 conventional SID, the ACP submitted by Gatwick Airport on 30 November 2012 relating to the Route 4 RNAV-1 SIDs (and as modified in accordance with the CAA's decision of 11 November 2015) is rejected.
39. The CAA has concluded that the Route 4 RNAV-1 SID has not achieved, to an acceptable standard, its original stated aim.
40. Therefore, the RNAV-1 SID route is not confirmed for future operational use and will be de-notified by the CAA, i.e. removed from the AIP. Due to the publication schedules for the removal of the RNAV-1 SID from the UK AIP, initially, the Route 4 RNAV-1 SIDs will be NOTAMed<sup>15</sup> initially as not available and will then be removed via an AIRAC date yet to confirmed by GAL.
41. The CAA's airspace change process for the Gatwick airspace change request dated 30 November 2012 as it relates to Route 4 RNAV-1 SIDs has now concluded.
42. In order to complete the de-notification process the CAA has outlined a number of requirements which GAL will need to complete. These will need to be completed as soon as possible commensurate with the AIRAC notification cycle for UK AIP amendments. GAL is to confirm with the CAA the NOTAM to withdraw data and the final withdrawal date from the UK AIP once these have been determined.

## Recommendations

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43. The CAA recommends that GAL addresses the Route 4 NPR alignment with the DfT and include any proposals for NPR re-definition in the CAP 1616

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<sup>15</sup> NOTAM action in this instance, is the process to preclude availability of the Route 4 RNAV-1 SID until it can be removed from the UK AIP (the source material for the publication of all Standard Instrument Departure flight procedures).

airspace change proposal (Reference ACP 2018-86), that is, if there is a requirement to have the NPR re-defined.

## **Future Airspace Change Proposals**

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44. The CAA notes that Gatwick Airport is currently progressing another Airspace Change Proposal to consider the implementation of PBN on Route 4.
45. This proposal has recently passed Stage 1 of the CAP1616 process. The next step will be for the sponsor to develop one or more options that address the Statement of Need and align with the design principles – see CAA ACP Portal: [ACP-2018-86](#).
46. The CAA recommends that any stakeholder with an interest in Route 4 ensure they engage with the consultation for ACP- 2018-26. Further information is available on the CAA's Airspace Change Portal (link above).

## **Route 4 RNAV-1 SID De-notification Requirements**

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47. As a result of our decision, in order to prepare operational users to switch over from flying the Route 4 RNAV-1 SIDs to flying the conventional SIDs, the CAA requires GAL to comply with a number of requirements, which, from a CAA regulatory perspective, must be completed in order to complete the de-notification process of the Route 4 RNAV-1 SIDs. In addition, GAL may consider further co-ordination and publicity with interested parties.
48. Regulatory actions required by GAL:
  - GAL is to brief airport operators, Gatwick ATC and NATS Terminal Control (TC) that the RNAV-1 SIDs are to be initially Notamed as 'Not Available', and that subject to confirmation between GAL, Gatwick ATC and NATS TC, the Route 4 RNAV-1 SIDs will be removed from the UK AIP via AIRAC [TBD] effective [TBD] (AIS submission deadline date is [TBD]).
  - The date for the above NOTAM action should be agreed in advance between GAL, Gatwick ATC and NATS TC in order that appropriate

action may be taken by ATC units to notify respective ATC staff, and that any considerations (if any) for Electronic Flight Plan Processing Strip implications are also accounted for.

Note: The date for the initial NOTAM RNAV-1 SID non-availability is to be the earliest date commensurate with the above (following the final confirmation of this decision which will follow on from the publication of this Draft decision and a 28 day review window for comments). This should give enough time for GAL to confirm with operational users that they have the conventional SIDs coded in their respective FMS navigation data bases.

- GAL should advise NATS TC Ops that the conventional SIDs to CLN and DVR will be the full length versions (not truncated at FRANE and ADMAG) to enable TC Ops to brief their Ops staff of any operational consequences.
- GAL is to confirm with operators that the conventional SIDs effective from 12<sup>th</sup> September 2019 will be the only Route 4 SIDs to be flown from the date of the NOTAM (which has yet to be determined).
- Subject to the date for final withdrawal being confirmed, GAL is to submit a change request to NATS AIS by date [TBD] to remove the Route 4 RNAV SID charts and associated navigation database coding tables effective [TBD] (whatever is the earliest date for de-notification which can be achieved). GAL will also need to amend further details in the UK AIP e.g. the AD 2.21 NPR table; AD 2.22 Flight Procedures, paragraph 3 & 11; AD 2.24 Charts related to an aerodrome and submit the appropriate change request to AIS.
- GAL may quote this decision letter to AIS as the authorisation to de-notify the Route 4 RNAV-1 SIDs.
- GAL is to advise the CAA of the Notamed withdrawal date of the Route 4 RNAV-1 SIDs and the final withdrawal date from the UK AIP once the Draft decision review period is complete and a subsequent final Decision is published, and that the notification dates have been determined

# Annexes

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- Annex A.** [Correspondence between Plane Justice and the CAA.](#)
- Annex B.** [Correspondence from GAL dated 3 July 2017.](#)
- Annex C.** [RNAV SID chart implemented 14 November 2013.](#)
- Annex D.** [RNAV SID chart implemented 26 May 2016.](#)
- Annex E.** [Conventional SIDs in use as at 14 November 2013.](#)
- Annex F.** [Conventional SIDs in use as at 20 July 2017.](#)
- Annex G.** [Conventional SIDs in use as at 12 September 2019.](#)
- Annex H.** [Comparison of track density plots from June 2013.](#)