

Modifications to Gatwick Airport departure Route 4

April 2017

If and when someone wants to make a change to the design of the UK's airspace - because they want to use it more efficiently or to enable the use of new technology - it is their responsibility to establish the pros and cons of that change both for airspace users (airlines or light aircraft users) and for the people on the ground. The Government sets the policy framework for how airspace should be used and the CAA is responsible for deciding whether or not a change to that airspace design can go ahead.

In 2013, Gatwick Airport sought our approval to implement changes to all nine of their departure routes. These changes meant a move away from old ground-based navigational infrastructure, instead using the improved capabilities associated with satellite-based systems. This enables departing aircraft to follow more precise flight paths and ground-based systems across the UK can be eventually switched off. Our approval was given in August 2013 after a consultation by the airport.

As part of the airspace change process, around one year after they enter into effect, the CAA conducts a review to establish whether the impacts and benefits of the change have been as anticipated. In the case of Gatwick's departure route changes, the review included a comprehensive study of flight paths flown and assessment of the significant amount of feedback we received from the general public, particularly over noise concerns. On the basis of this 2015 review, we then required Gatwick to undertake additional work.

What is Route 4?

Route 4 is one of nine departure routes at Gatwick and involves a take-off towards the west, an immediate 180 degree wrap-around turn to the north and east, and finally an eastbound straight ahead section.

Modified Route 4

Our report contained a number of requirements for Gatwick Airport to modify some routes to achieve a better replication of the associated original routes; Route 4 was one of those routes and it was subsequently modified. It now replicates the corrected Route 4 conventional SID.

We agreed that the modified Route 4 should be flown from 26 May 2016 and monitored for a six month period in order to gauge if the modified design was achieving our requirements. We advised Gatwick Airport that they would need to collate and submit data to us on Route 4 during that period; this process included the airport collating feedback received from members of the public and local communities.

Having conducted a review of the six month trial of the modified Route 4, we have decided that the RNAV SID designs currently published in the UK AIP should be made permanent.

Timeline

August 2013	CAA approved implementation of RNAV 1 SIDs at Gatwick Airport
November 2013	RNAV 1 SID procedures permanently introduced at Gatwick Airport
November 2014	CAA commences post implementation review of new RNAV 1 SIDs
September 2015	CAA publishes summary conclusions of review
October 2015	CAA provides Gatwick Airport with technical recommendations to assist in designing modification of Route 4
November 2015	CAA publishes detailed report on conclusions of review
March 2016	Gatwick publishes modified RNAV 1 Route 4 SID design
May 2016	CAA publishes agreement to modified design and requires data collection for six months. Modified Route 4 first flown.
March 2017	Gatwick Airport submitted corrected design for Route 4 conventional SIDs to CAA
April 2017	CAA publishes conclusions in respect of modified RNAV Route 4 SID design

What analysis did the CAA undertake?

The CAA analysed all the information provided by Gatwick Airport, including month-by-month track performance data correlated with weather data, specific track keeping performance by major airlines operating different aircraft types, and a review of complaint and feedback data submitted to Gatwick Airport by local communities.

Having reviewed six months of performance, we found that the majority of airlines maintained good track keeping adherence. South westerly and southerly winds do increase the likelihood of deviation from the track, and Gatwick Airport is engaging with operators to minimise this occurrence and on other track keeping deviations.

As expected, the largest volume of correspondence came from the most populated locations which have experienced an increase in noise levels since the implementation of the modified Route 4. There

was relatively little correspondence from the areas which experienced a decrease in noise impacts. All of the locations included in the summary of complaint data were outside the noise contour for significant aircraft noise as defined in [CAP 1346](#), the CAA's post implementation review of the new departure routes at Gatwick Airport, although it is clear that these communities may experience varying degrees of annoyance.

The CAA also considered the potential for confusion around the vectoring (or guiding by radio communication) of flights over the Horley area - the location of a number of complainants to Gatwick Airport during the modification monitoring period – and the provision in Gatwick's noise abatement procedures which state that aircraft shall avoid flying directly over the congested areas of Crawley and Horley. Gatwick Airport is working closely with NATS at Swanwick, which is responsible for vectoring, and as a result the number of flights over the Horley area has declined since this issue was first identified.