
Summary of NMB Reduced Night Noise Trial Workshop

Technical Workshop on 11 September 2018

Date: 20 September 2018

Attendees: Helios, GAL, EasyJet, Trax International, NATS.

Introduction

As part of ongoing planning for the Reduced Night Noise (RNN) Trial, a Technical Workshop was held to:

- Review the proposed trial routes and to discuss the Instrument Flight Procedure (IFP) design process;
- Discuss potential airspace issues and constraints;
- Better understand ATC and Airline trial procedures; and
- Review the proposed timescales for trial implementation.

This information paper summarises the output of the workshop, which was held on the afternoon of 11 September 2018. This summary is a technical document to facilitate industry dialogue. Technical terms are not explained here.

Trial Routes

The meeting considered the route designs. The following points were made:

- The trial will propose four routes for both westerly and easterly arrivals to be taken through the design process. It was agreed that the draft routes (presented at NMB/11 as IP30 in June) were operationally acceptable. However, two of the routes to the easterly arrivals were too close to make an operational difference and it was agreed to investigate an alternative option for traffic approaching Gatwick from the east via TIMBA 1J/1K/3F.
- ATC procedures will use the most appropriate route given the axis of arrival and considering any operational constraints.
- Each route will have their own ILS joining point so all traffic coming on that route will join at that ILS joining point. In the routes discussed, the joining points are staggered by at least 1NM, with a minimum join of 10.5NM.
- It was agreed that the routes would be designed to RNP 1.
- The use of RF vs non-RF legs was discussed. RF legs would aid track keeping in the turn and noise monitoring; it would be useful to understand which leg type is expected to be used in the future. Helios will investigate this with the CAA.
- Aircraft RF operational capability must be considered as this could affect the number of participating aircraft in the trial.
- Trial routes will be designed with 'not below' altitude requirements which allows aircraft to fly above the waypoints if preferable (eg because of wind conditions).
- Trial routes should be designed with a 3° descent profile. The trial routes will commence at 6000ft, 20NM from touchdown. There was discussion about the variability of the different aircraft types when minimising noise on the procedure, but it was felt that 3° was the best compromise¹. Helios said it would check with CAA if they had any additional advice on this.
- It was agreed that it is preferable if the start of the procedure doesn't align with existing STARS. Trax will coordinate with the CAA to confirm that the procedure can commence from a 'hanging' waypoint.
- The meeting discussed whether to start the procedure at 6,000ft or FL070. In low pressure conditions, FL070 is not an available level, as it's not separated from 6000ft. It was therefore agreed the procedure should start from 6,000ft but the first waypoint will be defined as *not below* 6,000ft to allow aircraft to stay higher than 6,000ft and descend gradually. This will ensure that the aircraft can fly the optimum profile into the procedure.

¹ Noise from Arriving Aircraft: An Industry Code of Practice, 2nd Edition, Department for Transport (DfT) et al., November 2006

- The trial can be suspended by NATS at any point if required, e.g. when traffic volumes are high or if there is conflicting traffic. It may be suspended for a short period or the whole night. One caveat for suspension is if an aircraft is delayed by the trial procedure when it would have received no delay under normal radar vectored approaches.

Action: Helios to investigate an alternative 4th route for easterly arrivals.

Action: Helios to investigate the use of RF vs non-RF legs.

Action: Helios to survey to FLOPSC members to find details of airline fleet RF operational capability.

Action: Helios to check with the CAA whether they have any additional advice on using a 3° descent angle for low noise

Action: Trax to discuss with the CAA whether the procedure can commence from a 'hanging' waypoint.

Airspace Issues and Constraints

The main airspace issues and constraints identified were associated with runway 08 arrivals and conflicting traffic. The following points were raised:

- Heathrow SIDs end at 6,000ft and therefore NATS will be required to place a restriction on Heathrow departures during the trial period (01:30-05:00 local). However, this should not make a practical difference as there are no scheduled Heathrow departures during this period.
- The 5,000ft restriction by a line running OCK – Shoreham (EGKA) requires coordination with TC South sectors by Gatwick Approach.
- It is expected that the Farnborough airspace change will be implemented before the end of 2019. The impact of this change to airspace on the trial needs to be confirmed.

Action: NATS to review Farnborough Airport's ACP and to identify what impact, if any, it might have on the trial.

ATC and Airline trial procedures

The meeting discussed the role and responsibilities of ATC and Airlines during the trial. The following points were made:

ATC

- NATS may suspend the trial if there was a traffic situation such that it would cause holding or delay that would not be encountered if operating under normal radar vectoring procedures.
- NATS will investigate whether changes to the EXCDS system are required to support the trial. Periods of trial suspension may be recorded by hand or through EXCDS (TBC).
- Aircraft not participating in the trial can also be identified by analysing aircraft track and vertical profiles (method to be defined, as some 'manual' aircraft could exhibit the same profile as a trial aircraft).
- Controller feedback and perspective of the trial can be recorded in a comments book.

Airlines

- Airlines will not flight plan the routes because they are not connected to the STARs. The AIP supplement will advise which RNP clearance an aircraft can expect according to its direction of arrival. The flight crew will advise if RNP unable and in this case will require vectors onto final approach.
- Pilot feedback can be provided via the FLOPSC forum at Gatwick. Workload is such that it would be difficult for flight crew to give feedback on each flight.
- The procedure may be flown manually (guided by flight director) and/or automatically using autopilot. A process for recording whether an aircraft is flown manually or automatically during the trial is desirable but may not be possible.

Action: Helios to discuss at FLOPSC whether it is possible to record if an aircraft is flown manually or automatically during the trial.

Timescales

A Gantt chart was presented to the meeting which provided an indication of timings for individual tasks including the required CAA assessment Gateways as part of CAP1616. On review of this Gantt chart, the following observations were made:

- Overall the trial start date is likely to slip considerably from January 2019 due to a number of constraints. Helios will plan new timescales and present them to NMB/12.
- If EXCDS changes are required, then this requires 3-5 months that will have to be scheduled after CAA approval and before the trial start.
- NATS will also have to identify the training requirements. NATS offered to check their timescales and provide a summary for the Gantt chart.

Action: NATS to review the Gantt chart and to provide a summary of their activities with associated timescales.

Next steps

Output from the Technical workshop will be used as input to NMB/12, where it is proposed that the NMB will discuss trial progress.