Reduced Night Noise (RNN) Trial

Airline Survey Feedback

Date: 01 May 2019

Introduction

An airline survey was circulated to members of Gatwick's Flight Operations and Performance Safety Committee (FLOPSC) on 18th April to capture airline operational and procedural requirements to support the planning and development of the trial PBN routes, with the aim of reducing noise from arriving aircraft. FLOPSC members including airlines, NATS, GAL, the CAA and ANS.

Airline Survey

Airlines were presented with key features of the trial (see Annex 1) and example IFP designs (see Annex 2). The survey, which consisted of 8 questions, was produced on Survey Monkey and airlines were provided with a URL link to access its content.

The survey was launched on 18th April and participants were asked to provide their feedback by 30th April, so that the results could be analysed and compiled, ready for discussion at an RNN Technical Workshop on 3rd May.

Survey Results

In total, we received 6 responses from the following organisations:

- EasyJet
- Virgin Atlantic Navigation Service
- TUI Airways
- Norwegian UK
- British Airways
- BALPA

The survey questions and responses are captured below.

Question 1 *Is your aircraft fleet, that operates or will operate from Gatwick, currently equipped and approved by your State of Registry for RNAV-1 (or P-RNAV) operations in terminal airspace? If partial equipage or if there is planned future introduction of capability, please give details.*

Yes	No	Partial Equipage
100%	0%	0%

Question 2 *Is your aircraft fleet, that operates or will operate from Gatwick, currently equipped and approved by your State of Registry for RNP-1 operations in terminal airspace? If partial equipage or if there is planned future introduction of capability, please give details.*

Yes	No	Partial Equipage
100%	0%	0%

Question 3 *If RNP-1 capable, does your fleet have RF leg capability?*

Yes	No
67%	33%

Feedback

Airline	Comment
Virgin Atlantic Navigation Service	Not all the Virgin Atlantic fleet currently operating at LGW has RF Leg capability. The B747-400 does not, but the A330 fleet does have this capability.
TUI Airways	Not at present for all aircraft types.

Question 4 *Would a continuous descent procedure designed from 6000ft/20NM be expected to be a low noise arrival for your fleet? (Plus, a 1.5 NM level segment prior to the FAF to satisfy procedure design requirements).*

Yes	No
83%	17%

Feedback

Airline	Comment
Virgin Atlantic Navigation Service	This would need to be checked for both the B747-400 and the A330 aircraft types. However, we believe this will be acceptable at least for the A330 fleet.
TUI Airways	Yes, dependant on any speed requirements.
British Airways	The level segment prior to the ILS will probably necessitate some application of power but should still be capable of relatively minimal drag...overall, this should still qualify as low noise.

Question 5 *The end of the Gatwick STARs, TIMBA & WILLO, will not be connected to the start of the respective IAF of the PBN Transition. ATC will instruct crews to route direct to the appropriate IAF at a timely point when flying the STAR. An AIP SUP will be used to introduce the trial. It will detail the trial and trial procedures. Are there any implications for your operations, including flight planning, with this proposal?*

Yes	No
50%	50%

Feedback

Airline	Comment
Virgin Atlantic Navigation Service	Having the IAF for these procedures in a separate location to the end of the STAR would mean that the crew would be unable to efficiently set up for these arrivals prior to initial Top of Descent. Therefore, receipt of a revised clearance on to one of the procedures in the latter stages of the arrival would present significant head-down activity for the crew in re-programming the FMS at busy stage of the flight leading to undesirable higher crew workload. There may be mitigation for this if the specific arrival route at this time of day is guaranteed at the flight planning stage.
British Airways	I would value details of the trials so that our crew can receive communication before the details appear in the AIP supplement, in order that they can process the change. I would also want to pass the details past our Flight Planning Team to ensure the arrival distances/fuel burn are accurate in the flight planning system. My hunch is that they will be very similar and so shouldn't cause any issues.

Question 6 *Would your organisation be able to provide use of flight simulators to support the IFP validation activities?*

Yes	No
50%	50%

Feedback

Airline	Comment
Virgin Atlantic Navigation Service	In principle yes, but we have some significant limitations on access to our flight simulators, which may mean it would be difficult to plan.
TUI Airways	I am not in a position to offer simulator time to support this activity. However, I work closely with our training department, and would be happy to enter discussions about seeing where we can help dependant on other training requirements. It would also depend on the time of year as well as other factors. I am happy to discuss nearer the time.
British Airways	With the current training load we have at BA, it is unlikely. That said, if the trials would take place later in the year then it is likely that we would have capacity.
Norwegian UK	Simulators located at Gatwick, Manor Royal. We would be happy to help and use these simulators and nominated trainers to trial and feedback the RNAV approaches.

Question 7 *The Southern Runway, which is planned to be used for the trial, may be unavailable for part of the proposed trial period due to planned runway works. As such, further options may have to be considered to ensure that enough data can be collected to draw a reasonable conclusion. One option is the design of routes to the Northern Runway (in addition to the Southern Runway routes). Do you foresee any issues with this option should it be explored?*

Yes	No
0%	100%

Feedback

Airline	Comment
Virgin Atlantic Navigation Service	No more than current operational considerations dictate.
British Airways	The use of the RNAV approaches to the Northern Runway are usually flown with a level segment before the (current) IAF. As long as this is still available then I see no issue. I do not think that we would be able to fly an RNAV procedure that started from the proposed (new) IAFs as we would then have to fly RF legs on the final approach segment, which I do not believe we can do at this time.

Question 8 *Please provide any additional comments or observations, particularly regarding the safety or operational viability of the trial.*

Feedback

Airline	Comment
Virgin Atlantic Navigation Service	It would be helpful or preferred if the procedures were designed with speed requirements to aid efficient descent planning.
BALPA	• The coordination of sectors in the lead up to this procedure is key. The earlier pilots can plan to use this transition to Final the better. • The alternative is having aircraft flying along its route with noisy speed brake and or gear to contain the energy within the given track mileage. • It's a great idea

Post-Engagement

A number of important points were raised by airlines in the survey. These were addressed during, and subsequent to, the Technical Workshop on 3rd May. The table below summarises key outcomes of discussions, which we believe address the points raised.

Subject	Description
RF Leg capability	Some operators have aircraft capable of RF legs but do not have operational readiness 3-4 months is required for individual airlines to achieve the required status.
Procedure design	Transitions are connected from IAFs to the existing FAF, however there is a disconnect between the end of the STAR and the start of the transition.
Procedure design	The procedures designs will include not below 3000ft and 6000ft altitude restrictions.
Procedure design	The procedure designs will include maximum speeds only. ATC will instruct crews of any other speeds required for sequencing, safety and to minimise noise where possible.
Procedure operation	ATC must provide a clearance as early as possible to aid continuous descent management. An instruction will be developed identifying a minimum distance from touchdown by which the crew should receive clearance.
IFP Validation	The 16 procedures should be validated on two aircraft types with different FMS (Airbus and Boeing), in a range of met conditions.
AIS supplement	The AIS supplement will advise which transition crews should expect based on their STAR. One chart showing the four transitions should be developed for each runway.
Trial participation	ATC will assume that everyone is participating in the trial unless they are informed by the crew that they are unable to fly the procedure. In the event ATC cannot facilitate descent and/or direct routings, vectoring would resume.
Trial monitoring	Airlines will complete a trial feedback form for every flight participating in the trial. ATC will record any flight which does not participate in the trial.
System requirements	NATS confirmed that no system changes are required.

Annex 1: Key Features of the Trial

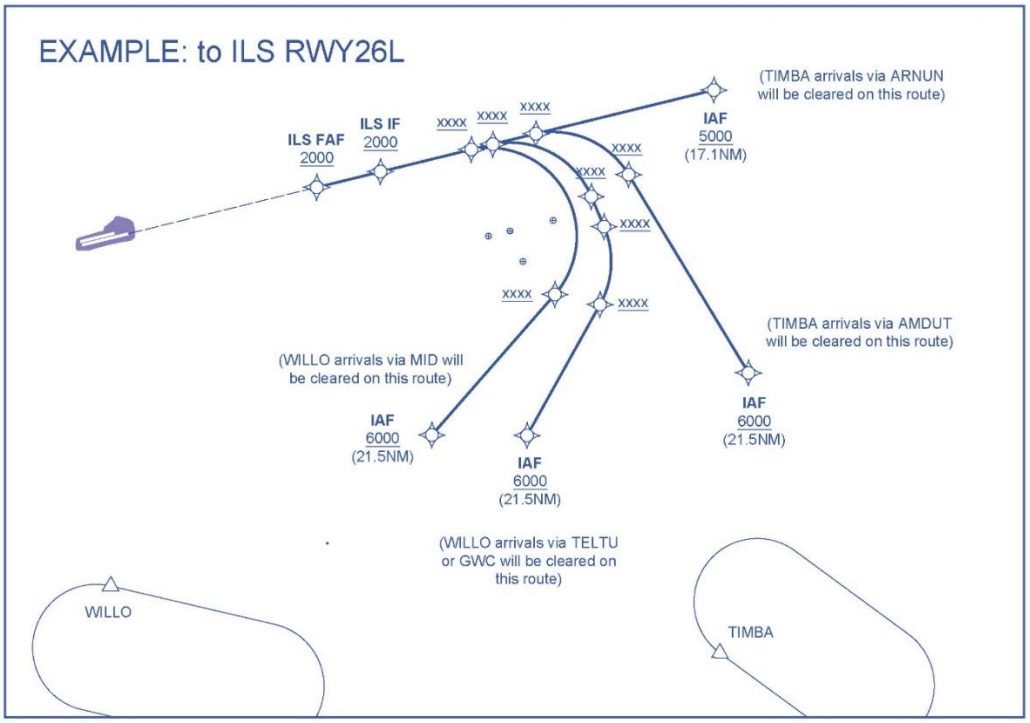
The following key features of the trial were included in the survey as information:

- A 6-month trial starting in early 2020
- Operational during 01:30 – 05:00 (local)
- Using continuous descents designed to minimise noise
- Transitions will intercept the existing ILS on runway 26L/08R and the RNAV final approach to 26R/08L
- Expected to be based on RNP-1 with RF legs
- PBN routes to be flown by capable aircraft, with others being vectored as at present
- Trial may be suspended for operational reasons (e.g. high levels of traffic, weather avoidance)

Annex 2: Example IFP Designs

The following example IFP designs were included in the survey as information:

Trial concept example for 26L ILS arrivals:



Trial concept example for 08R ILS arrivals: