



The Quiet Flying Programme Review including the Evaluation of the Farnborough Airport Noise Abatement Trials 2007/8

Summary

1. The work of the Quiet Flying Programme Working Group (QFPWG) was focused on the mitigation of noise generated by both ground and flying operations.

2. It is the group's belief that the measures taken to mitigate ground noise have been beneficial. Of these the following are likely to be acknowledged as most significant:

(a) Engine full power checks before alignment on runway.

(b) Minimising use of reverse thrust.

(c) Offering pilots a rolling take off option.

3. Noise generated by flight operations remains the main concern of the community representatives.

4. **Take – off Noise.**

4.1 **Western End - Church Crookham, Ewshot, Fleet, Farnham.** Noise Preferential Routes South and North (NPRS and NPRN). The objective of the exercise is to minimise the number of people troubled by noise. The best means of achieving this would be to establish a NPR overflying the least populated area. Attempts were made to quantify, through direct noise measurement, the extent to which residents living within the NPRN footprint would gain a reduction in noise through the introduction of NPRS, but these proved to be inconclusive (See paragraph 5 below).

4.2 The trial confirmed that not all aircraft types can acquire NPRS early enough for it to be effective. Moreover, even when aircraft were able to acquire it, noise measurements did not confirm that the use of NPRS brings significant relief for those within the NPRN footprint. Given this failure the community representatives take the view that it is difficult to justify overflying a community that has not previously been regularly over flown, other than on the grounds of the NATS advice that significant operational and safety benefits accrue from the continued use of both routes. Air Traffic Controllers at Farnborough are legally required to maintain safety distances, both vertically and horizontally, between 'known' traffic (i.e. aircraft they are talking to) and 'unknown' traffic.

4.3. The QFPWG introduced the requirement for the initiation of turns off the NPR's to be delayed until at least 2nm from take - off This has the benefit of maximising initial climb rates, and a reduction in the spread of aircraft tracks over the more populated areas closer to the airport.

4.4. A key issue that remains outstanding is the frequency with which the Noise Abatement Procedures (NAP) is set aside by NATS in order to maintain safe separation distances within the uncontrolled airspace. At all the larger commercial airports, certainty of aircraft tracks is achieved. The controlled airspace that surrounds these airports

enables the CAA to approve the use of standard routes that will be followed every time. The QFPWG has recognised that a longer term objective for TAG is to secure an extension of controlled airspace.

4.5 Eastern End - Farnborough/Mytchett. The NAP originally established by Rushmoor required aircraft taking off to the east to turn south having reached a safe height. This resulted in aircraft turning within a 'quadrant' that embraced much of the Farnborough Park and North Camp populations south of the extended runway centre and east of the A325. The introduction of the rule by the QFPWG that the initiation of turns are delayed until at least 2nm from take-off has effectively shifted this 'quadrant' further to the east by 1 to 2 kilometres, so that turns now occur over unpopulated army land however the group acknowledge that all aircraft now pass over Mytchett prior to this turn, but at a higher altitude than was previously experienced. A further consequence of this change is that all aircraft taking off to the east now pass over the FCOT. As this is a major educational establishment the community representatives consider this to be detrimental, but accept that operational and flight safety benefits identified by NATS are deemed to outweigh that disadvantage.

5. Trial Results.

5.1 As noted above there were some operational difficulties affecting the trial plan:

- a) The noise measuring equipment did not register single event noise on all occasions.
- b) Some aircraft were unable to acquire the southerly noise preferential route at a sufficient early point as to realise benefits for those residents located under the northerly preferential route and closest to the airport. Aircraft weight and adverse weather conditions are 2 factors that cause this problem. (See paragraph 4.2 above)
- c) Noise abatement procedures were cancelled by ATC.
- d) A proportion of the trial period involved easterly aircraft take-offs.
- (e) The data analyses show that the trial aims and objectives to reduce noise nuisance for residents by introducing an alternative route for 50% of the flights did not prove entirely successful.

6. Options going forward

6.1. For runway 24 departures 5 noise abatement options have been identified:

Option A. Return to a revised version of the original procedures that would require aircraft to reach 1800ft before turning right and leave the left turn to the pilots discretion or ATC instruction.

Option B. Return to a revised version of the original procedures that would require aircraft to reach 2 Nm DME before turning right and leave the left turn to the pilots discretion or ATC instruction.

Option C. Return to Phase 1 of the trial that would send all aircraft straight ahead to 2 DME before turning right or left.

Option D. Instruct all aircraft to turn to 220° when at a height safe to do so and continue on track to 2 DME before turning.

Option E. Continue with Phase 2 of the trial with split departures determined by onward routing.

TAG believes that option A would be operationally difficult for ATC and could lead to a return to more aircraft turning right over residential Fleet & Pondtail.

If northbound aircraft use Option D they would have to manoeuvre to the west of RAF Odiham which would dramatically increase the workload for both ATC and the pilots and should therefore be discounted.

The reaction from the community in Church Crookham to Option C was adverse.

Option B and E are of a similar nature, but option E should result in narrower and therefore more predictable noise footprints.

7. Conclusion

7.1. Noise abatement options for the residential areas close to the airport are severely limited due to the nature of the airspace, and the legal requirements of the CAA.

7.2 TAG is conscious of trial fatigue and the additional workload the trials imposed on both ATC and pilots. The adoption of procedures other than those utilised in Phase 2 would require another change to publications.

7.3 The Community representatives accept that the Phase 2 procedures are most likely to give the best possible result at present, and place weight on the NATS view that they have significant operational and safety benefits.

7.4 The Community representatives accept the need for the procedures to be kept under review, and possibly adapted to take account of noise reduction measures that might become possible with airspace reclassifications.

8. Recommendation

8.1. The FACC to note the conclusions, and confirm it will be content should TAG ask Rushmoor, the Planning Authority, to give its concurrence to the noise abatement procedures defined in the current AIP.

8.2 The FACC to note that the QFPWG is now focused on establishing benefits that might accrue from airspace changes.

8th March 2011