

Farnborough Airport

Environment Report July – September 2005



Farnborough Airport Environment Report

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TAG Farnborough Airport Ltd
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INTRODUCTION

1.1 In compliance with the requirements of the agreement in place under Sections 106 and 299A of the Town and Country Planning Act 1990, between TAG Farnborough Airport and Rushmoor Borough Council, TAG hereby submits a report for the third quarter of 2005 (July – September 2005), detailing results of environmental monitoring as required by that agreement. In line with the paragraph 2 (t), the content of this report was revised prior to the publication of the report covering January to March 2005 in consultation with Rushmoor Borough Council Planning department, to focus on monitoring results data only. For background information please refer to Environment Reports published prior to this date.

2 NOISE MONITORING

- 2.1 Graphical plots of recorded aircraft noise events are distinctive in their appearance. Figure 1 shows a typical aircraft noise event plot. The characteristics of this plot are very distinctive and readily identifiable.
- 2.2 The permanent noise monitoring terminals remain in operation. The portable noise monitor is still in its previously reported location in location Ewshot. All possible efforts are being made to compile a comprehensive noise dataset for this location although mobile telephone reception levels continue to cause problems with data transfer. Some noise data has been lost as a result of these problems. Noise data recorded by the monitor however can be regarded as reliable.
- 2.3 Figures 2, 3 and 4 below show Leq data for correlated aircraft Event noise, (E), Total Leq levels recorded (Total) and Background (Background) noise calculated as comparable Leq_(A) values, by day of month and NMT for July, August and September respectively.

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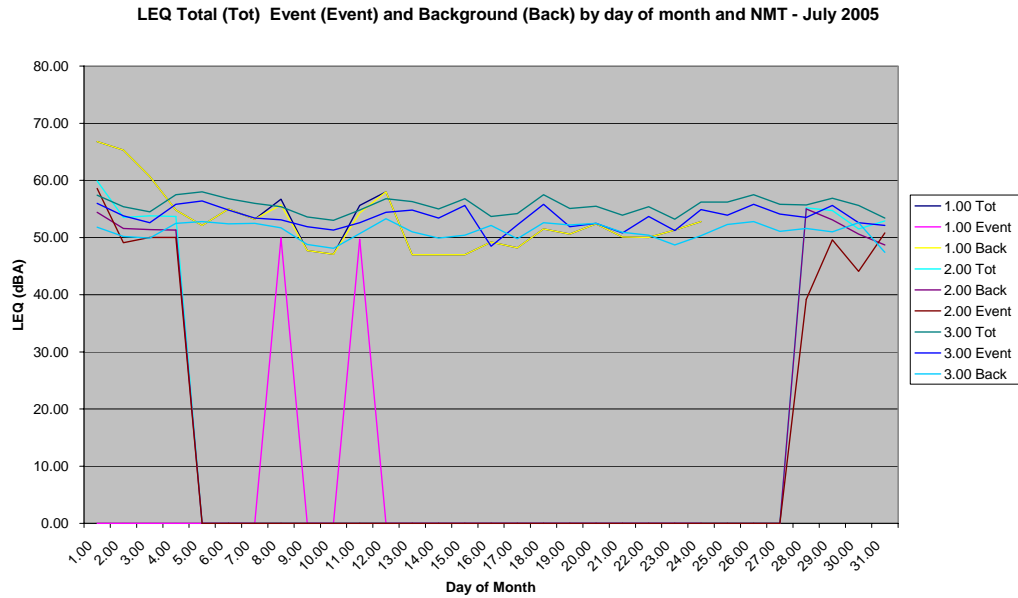


Figure 2: Noise as Leq Total, Event (E) and Background (Back) by Day of month and NMT for July 2005

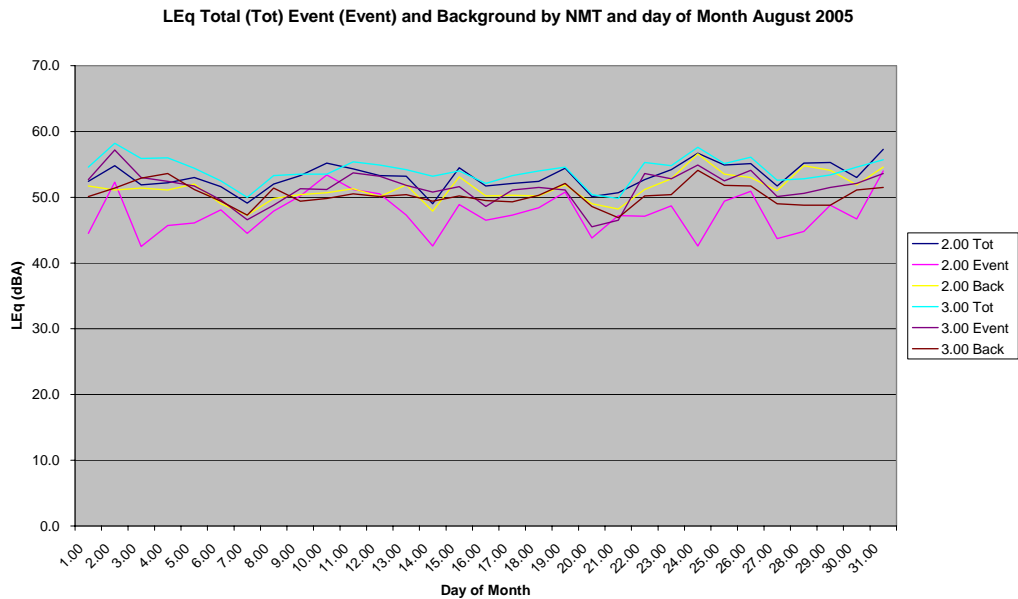


Figure 3: Noise as Leq Total, Event (E) and Background (Back) by day of month and NMT for August 2005

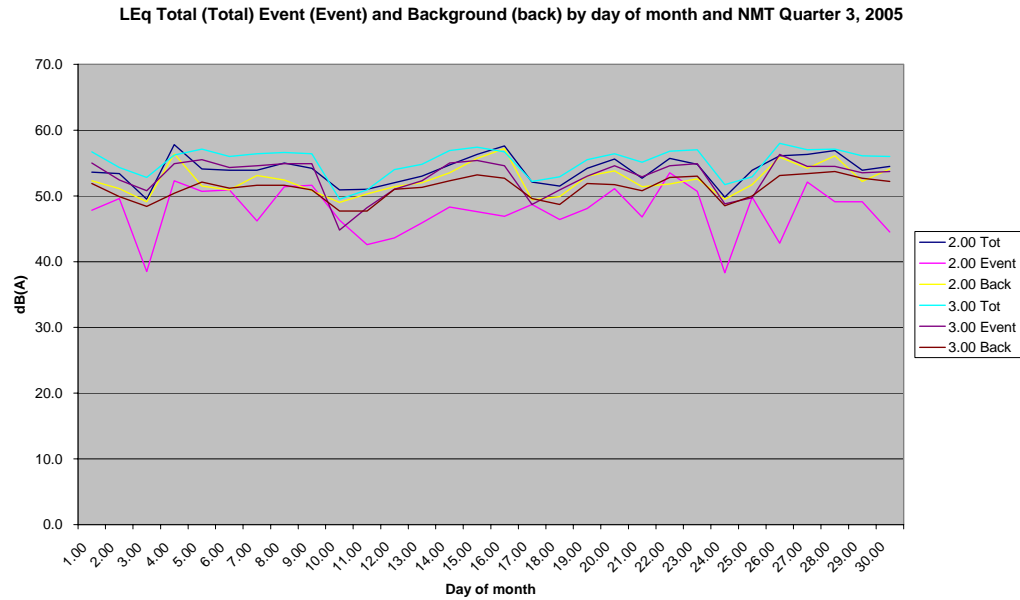


Figure 4: Noise as Leq Total, Event (E) and Background (Back) by day of month and NMT for September 2005

- 2.4 The 55 dBA figure is below that deemed to be the trigger of "low annoyance" in the Wilson Committee Report (1963) which is traditionally used as a method of assessing the probability of annoyance due to aircraft noise. For Farnborough the total land area affected by noise at and above 55dB (A) was confirmed as 3.62km² through use of the FAA's Integrated Noise Model (INM) when modelling actual movements for January to June 2005 and is predicted to be 3.74km² for the Second half of 2005 (i.e. July to December 2005).
- 2.5 All daily Leq Figures are given in Appendix 1. No significant difference is identifiable between results obtained this quarter when compared with those for the same period last year. No Aircraft movement numbers are given in Table 1 below.

2.6 The FAA’s INM is stated in the European Environmental Noise Directive (Directive 2002/49/EC) as the preferred European Standard tool for assessing noise impact from aircraft.

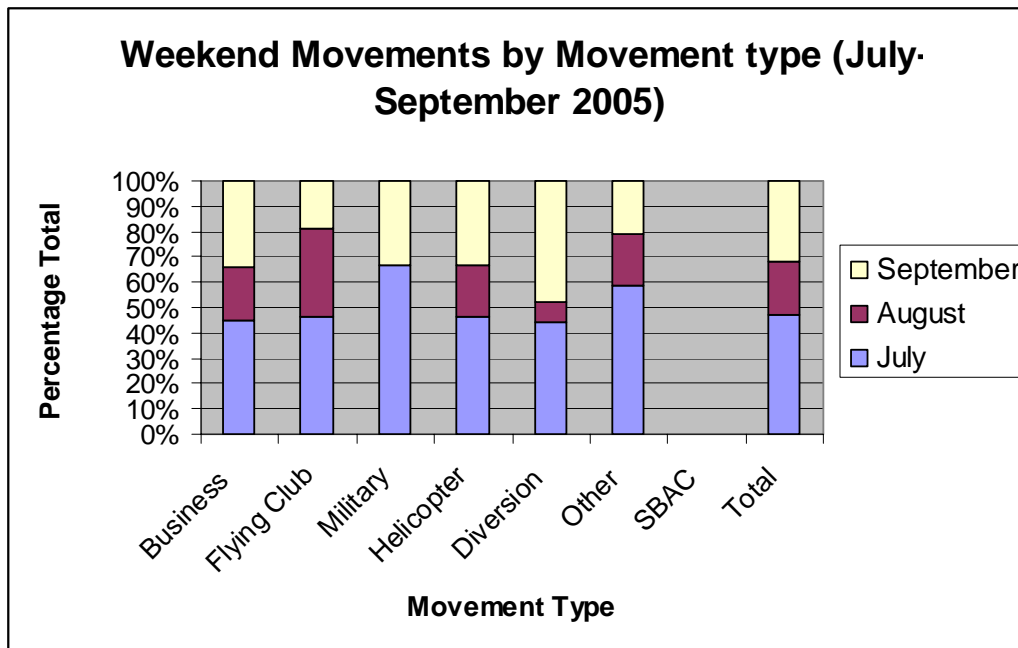
3 AIRCRAFT MOVEMENTS

3.1 Table 1 shows all aircraft movements over the three-month period by movement category. Figure 5 gives a summary of movements by category, for weekends.

Category	July	August	September	Quarter 3, 2005	Total 2005
Business	1724	1232	1814	4770	13468
Helicopter	76	50	112	238	701
Subtotal (Planning Agreement Movements)	1800	1282	1926	5008	14169
Flying club	80	83	59	222	559
Military	12	04	11	27	113
Diversion	23	6	21	50	143
Other	177	150	83	410	802
SBAC	0	0	0	0	0
Total	292	243	174	709	1617

Table 1: *Movements by Category for Quarter 3, 2005*

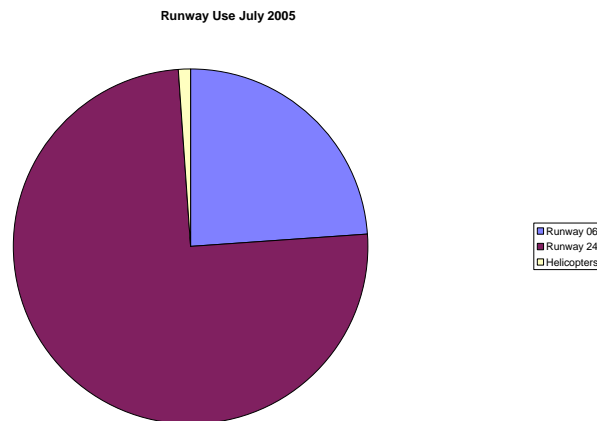
Figure 5: *Weekend Movements* by Type for Quarter 3, 2005*



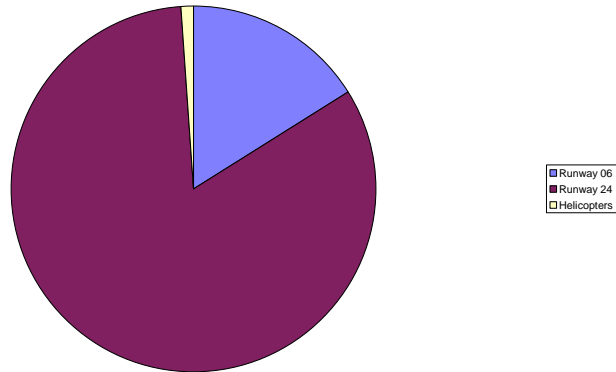
* Excludes Bank Holidays

3.3 Figure 6 below gives information on the runway split and shows all movements by runway used. The overall runway usage split for arrivals and departures was 20% Runway 06, 79% on Runway 24 and 1% for helicopter movements for the quarter.

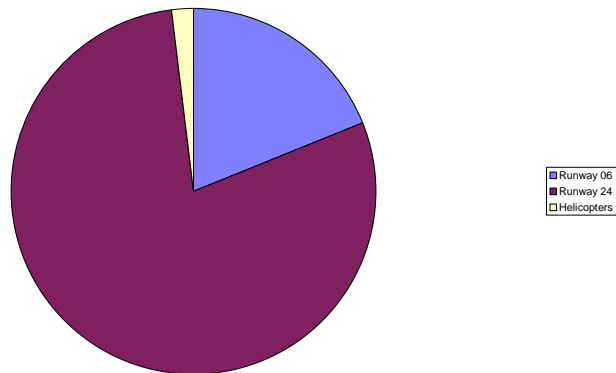
Figure 6: Monthly Movements by Runway Used Quarter 3, 2005



Runway Use August 2005



Runway Use September



3.4 The Maximum Take Off Weight (MTOW) for is recorded within the NTMS for all fixed wing aircraft. Figure 7 gives a summary of aircraft over 50,000kg MTOW for Quarter 3, 2005.

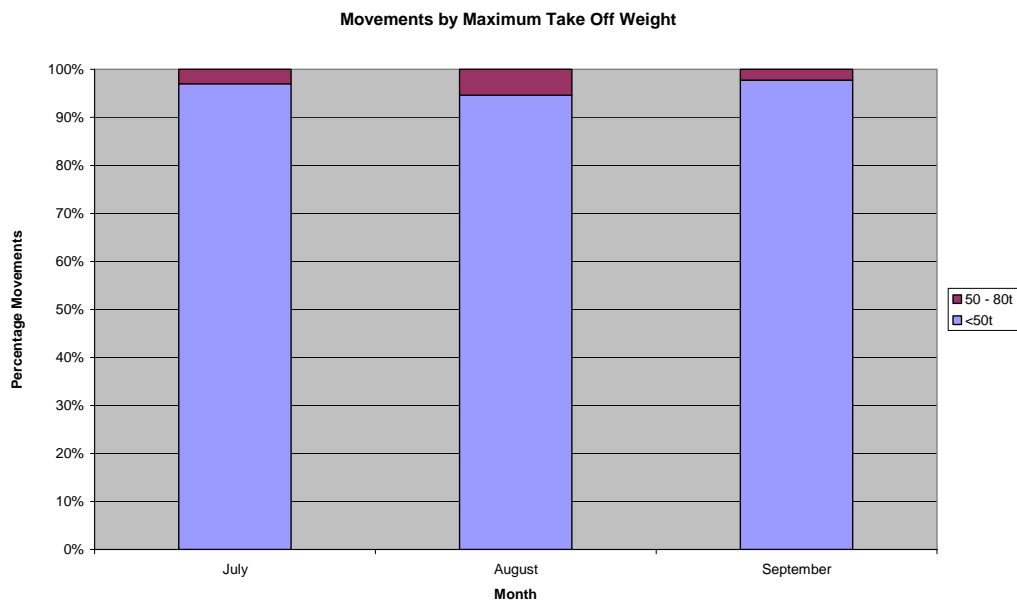


Figure 7: *Movements by Maximum Take Off Weight (MTOW)*

3.5 All civil aircraft using Farnborough were compliant with the International Civil Aviation Organisation (ICAO) Chapter 3 classification, (a classification based primarily on engine noise.) No hush kitted aircraft used the airport this quarter. From January 2006 aircraft being manufactured are required to be compliant with the new more stringent ICAO Chapter 4 classification. Such is the nature of the customers at Farnborough that it is understood that many of the aircraft operating already comply with the new more stringent standard.

3.6 Helicopters, light aircraft and military aircraft are not subject to the requirements of the ICAO noise certification scheme.

4. AIR QUALITY MONITORING

4.1 The locations of all of the nitrogen oxide diffusion tubes and Streetbox monitors have remained as reported previously. To see details of the locations of the monitors please refer to previous reports. The National Air Quality objectives for oxides of nitrogen are quoted overleaf:

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Nitrogen Dioxide*	200µg/m ³ when expressed as an hourly mean not to be exceeded more than 18 times a year.	Hourly mean	31/12/2005
* It should be noted that the Nitrogen Dioxide objectives are provisional.			

Table 2: *The Air Quality (England) (Amendment) Regulations 2002*

- 4.4 The results of the air quality survey consist of both raw and manipulated data taken from the diffusion tube laboratory analysis and downloaded computer data from the Learian automatic samplers.
- 4.5 Nitrogen oxide results taken from the diffusion tubes and Learian Streetbox samplers indicate that NO_x levels around the airfield have achieved the objective as set out by the Air Quality Regulations Amendment Regulations 2002. Levels recorded by the monitoring network continue to remain at levels at or below urban background levels. It is considered that the proximity of the monitors to ground level sources of NO_x (such as roads, combustion plant including boilers etc) is influencing the results obtained; this is illustrated by the elevated levels consistently recorded for location 13 adjacent to the M3 motorway. Readings of “0” indicate instances where diffusion tubes have been removed without authorisation from TAG.

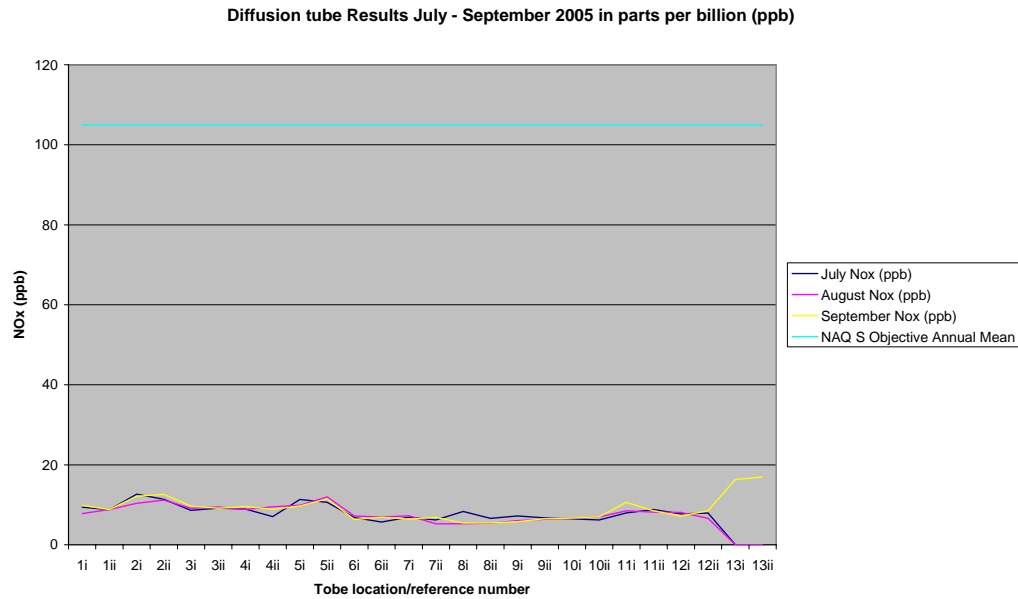


Figure 8: Nitrogen Oxides Diffusion Tube Results Quarter 2, 2005, and Air Quality Regulations*, Hourly Mean

Key: **ppb** - parts per billion.

*Air Quality Regulations 1997 (as amended 2000)

4.6 Table 3 below gives the air quality monitoring results obtained from the two Learian Street Box automatic samplers. The Streetboxes are collocated with diffusion tubes, references as given.

Location	July (ppb)	August (ppb)	September (ppb)
Kempton Close (co-located with diffusion tubes 1i and 1ii)	8.8	13.3	7.5
Farnborough College of Technology (collocated with diffusion tubes 2i and 2ii)	13.0	15.1	15.4

Key: **ppb** - parts per billion

Table 3: Learian Streetbox results for Quarter3, July – September 2005.

5 CONCLUSION

- 5.1 All required environmental monitoring continues at the airport. Monitoring results obtained this quarter demonstrate the airports compliance with both regulatory requirements and those associated with the Town and Country Planning Act Section 106/299A Agreement.
- 5.2 Movement numbers at the airport continued to rise across all sectors. However they remain well within the permitted movement levels. Compliance with noise abatement procedures remains mandatory, the internal enforcement procedure introduced by TAG is becoming increasingly well established at the airport and with its customers. No movements by aircraft types other than those permitted by the planning agreement occurred over the duration of this quarter no movements occurred by aircraft fitted with hush kits. Compliance with noise abatement procedures remains mandatory, the internal enforcement procedure introduced by TAG is becoming increasingly well established at the airport and with its customers.
- 5.4 Monitoring of the oxides of Nitrogen as indicator gases, in and around the airport continues. No discernable trends are identifiable within the results. Measured Nitrogen Oxide levels remained well within those considered as typical for urban background sites.
- 5.5 The activities at the airport remain within those required by the Section 106/299A agreement.



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Appendix 1



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Appendix 2