Town and Country Planning Act Section 106/299A

Environment Report 1
January to June 2013

TAG Farnborough Airport Ltd
Farnborough
Hampshire
GU14 6XA

1. 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 (TFA) and Rushmoor Borough Council (RBC), TFA hereby submits a report for January to June 2013 detailing results of environmental monitoring as required by clauses 1.3, 2.8a, 2.8b and 3.4.

2. NOISE MONITORING

2.1 The two permanent noise monitoring terminals (NMTs) have remained in continuous operation for the reporting period.

The portable noise monitor has remained available on request to any member of the community that has a requirement for noise monitoring within their residential area.

2.2 Figures 1 to 6 overleaf display dB(A) L_{eq16} data for correlated total noise levels (Total), aircraft events (Event) and background noise (Background), calculated as comparable A-weighted (dBA) values, by day of month and NMT for the reporting period.

2.3 The peak in daily noise levels on the 7th, 8th, 9th,10th and 17th March, the 13th and 14th April, the 8th to the 11th of March, the 7th, 14th and 15th April and on the 18th, 19th, 20th and 26th May all relate to events that took place at Tweseldown Racecourse. The sharp peaks on the 10th April correspond to the annual calibration of both NMT units.

Figure 1: Noise as dB(A) L_{eq16} Total, Event and Background, by Day of Month and Noise Monitoring Terminal, January 2013.

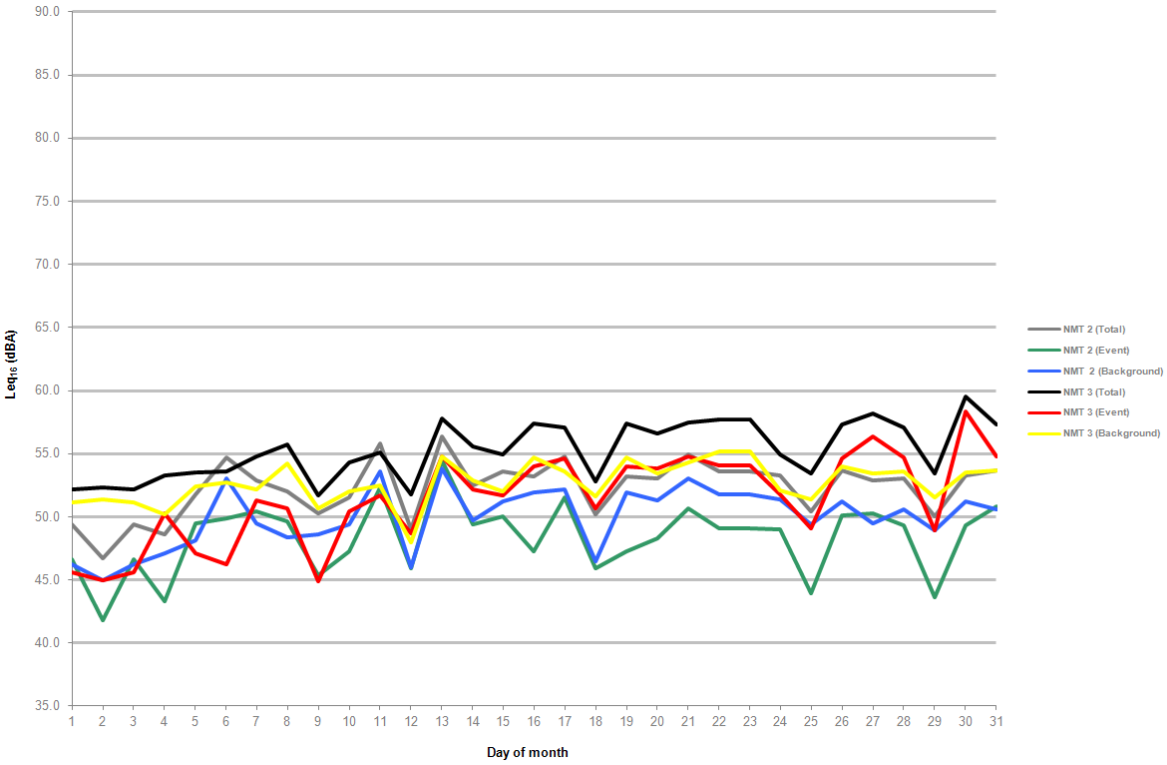


Figure 2: ***Noise as dB(A) L_{eq16} Total, Event and Background by day of month and Noise Monitoring Terminal, February 2013.***

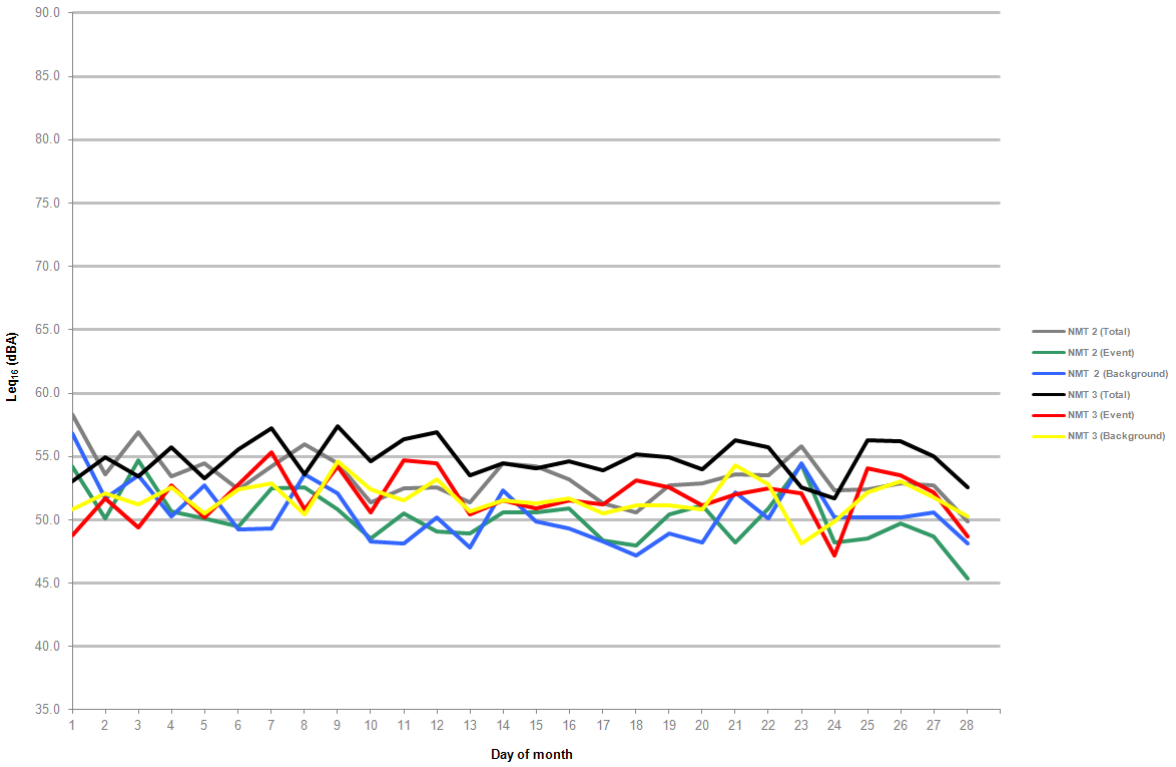


Figure 3: ***Noise as dB(A) L_{eq16} Total, Event and Background by day of month and Noise Monitoring Terminal, March 2013.***

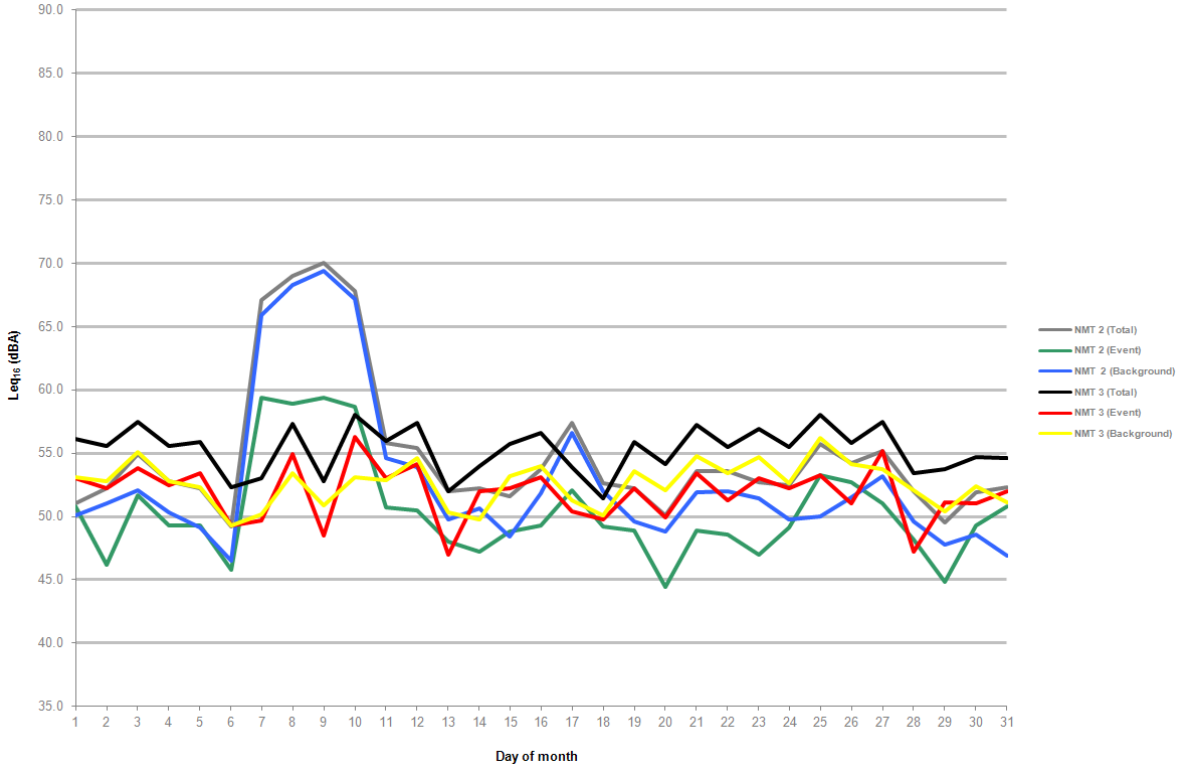


Figure 4: ***Noise as dB(A) L_{eq16} Total, Event and Background by day of month and Noise Monitoring Terminal, April 2013.***

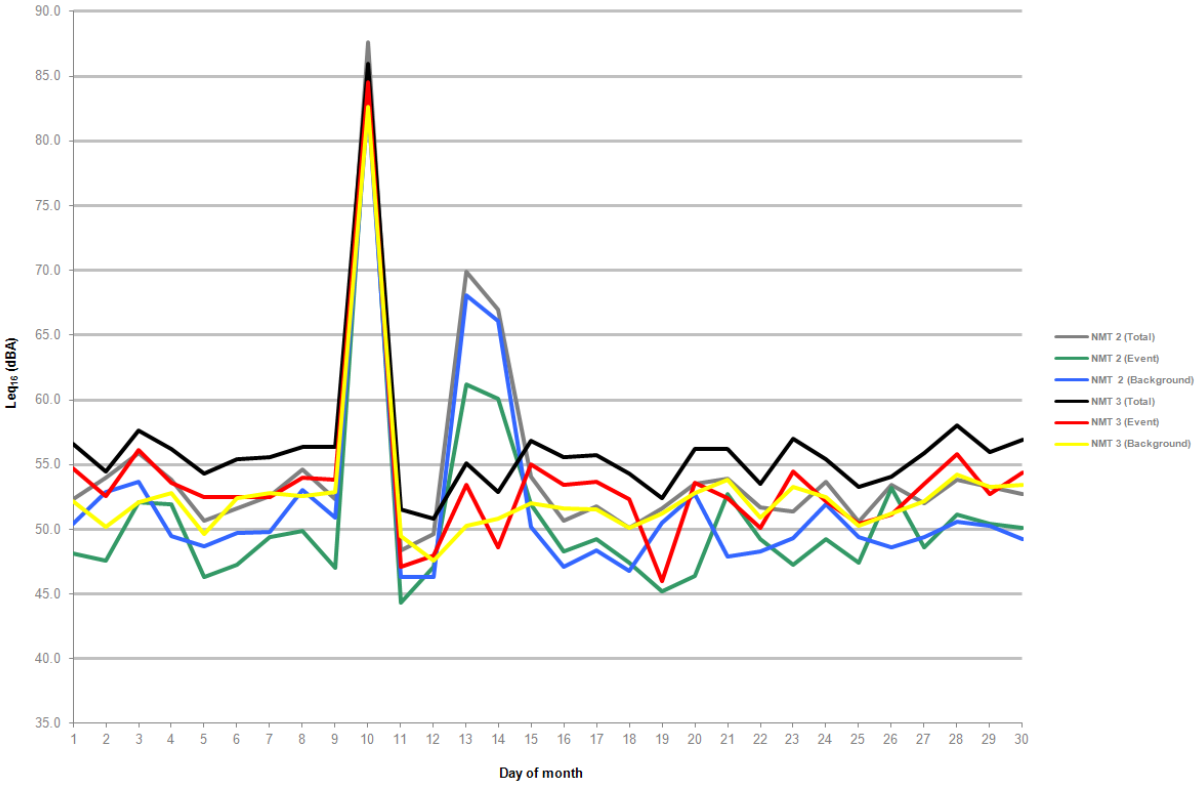


Figure 5: ***Noise as dB(A) L_{eq16} Total, Event and Background by day of month and Noise Monitoring Terminal, May 2013.***

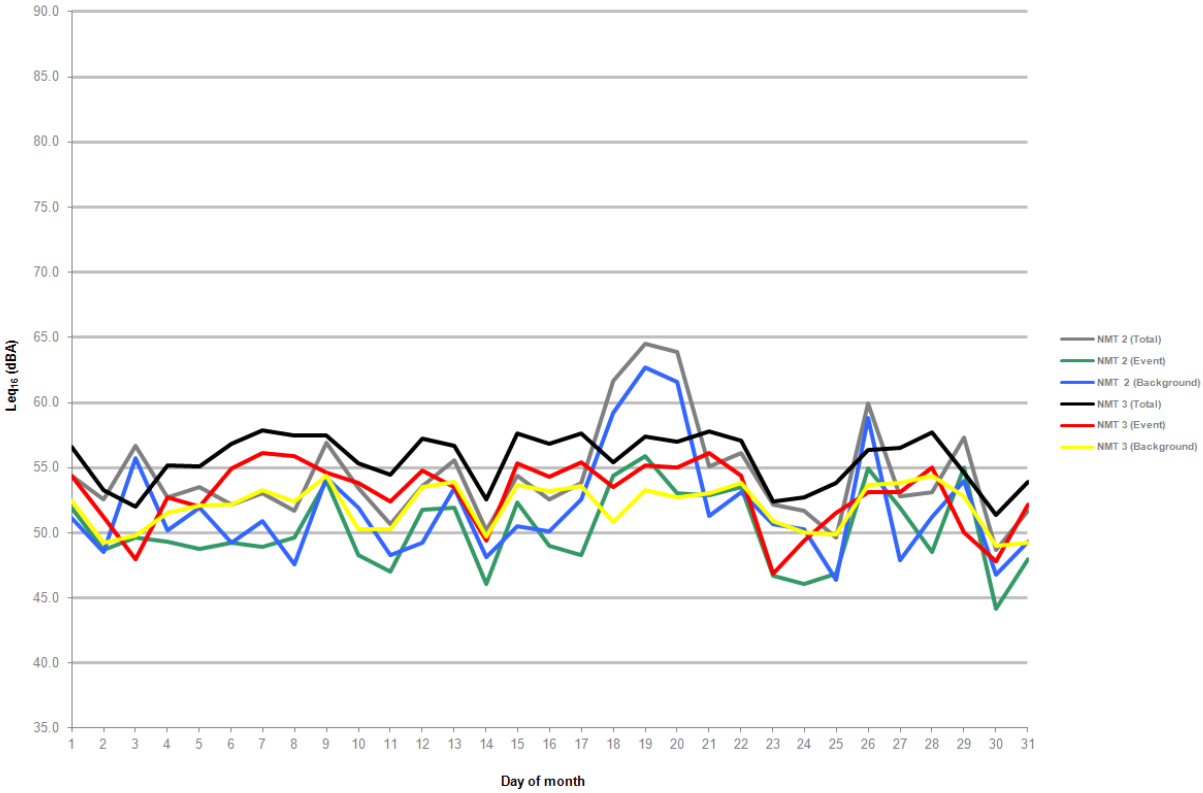
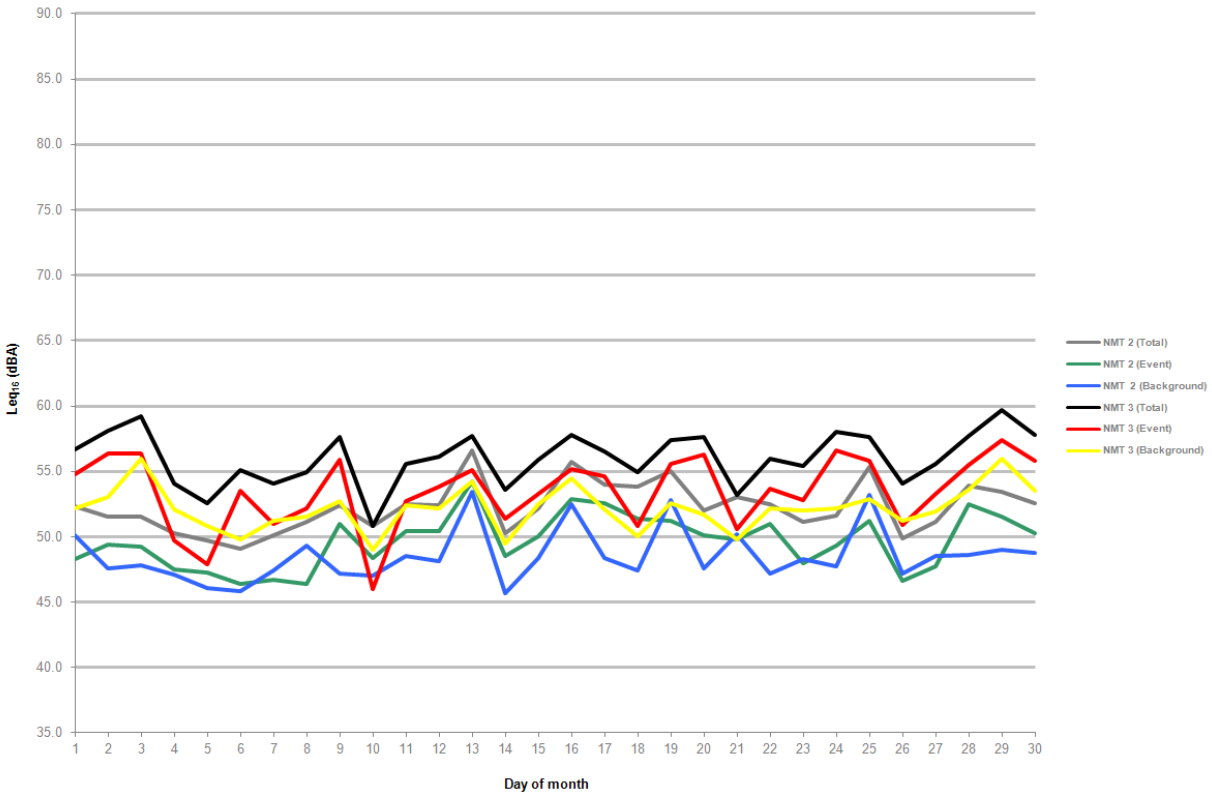


Figure 6: ***Noise as dB(A) L_{eq16} Total, Event and Background by day of month and Noise Monitoring Terminal, June 2013.***



2.4 Noise contours produced using the FAA's Integrated Noise Model (INM 7.0c) for operations covering 2012 together with predicted contours for 2013, were submitted to RBC in mid February in accordance with the requirements of the agreement between TFA and RBC. The results of the modelling exercise undertaken are given below in Table 1, along with those included with the planning agreement. The predicted noise contours were generated using movement data (flight tracks) from the study year, taking in to account the forecast growth for the year ahead (including predicted helicopter movements).

Table 1: Most Recent Results of INM Modelling exercise

dB $L_{Aeq,16h}$	**Control Contours** Predicted 20,000 (km^2) movements (1997 mix)	**Amended Control Contour Areas** (km^2) as per clause 12.1a of the S106 (29/10/2010)	**Actual Contours Areas** (km^2) Jan-Dec 2012 (23,017 actual 2012 movements)	**Predicted Contour Areas** (km^2) Jan-Dec 2013 (23,017 predicted movements 2012 fleet mix)
55	9.07	6.58	1.89	1.89
60	4.03	2.42	0.86	0.86
65	1.70	N/A	0.41	0.41

2.5 Contours relating to actual movements for January to June and predicted contours for July to December this calendar year will be supplied to RBC in mid August.

2.6 Use of the dB(A) L_{eq16} contour is internationally recognised as a means of noise measurement. A 66 dB(A) L_{eq16} indicates that the average level of noise during a 16 hour day is 66 dB(A).

2.7 The 55 dB(A) L_{eq16} contour, used in agreement with Rushmoor, is below that deemed to be the trigger of "low annoyance" in the Wilson Committee Report (1963), a report traditionally used as a method of assessing the probability of annoyance due to aircraft noise.

2.8 The FAA's INM has been produced to comply with the requirements of ECAC -CEAC Document 29 as specified in the proposed European Noise Directive.

2.9 In accordance with the requirements of the Section 106 Agreement TFA has used INM 7.0c to produce the noise contours. This version of the software allows previously excluded helicopter movements to be integrated in to the modelling process together with consideration of surrounding terrain.

2.10 Daily dB(A) L_{eq16} Figures are given in Appendix A.

3. AIRCRAFT MOVEMENTS

3.1 Table 2 displays a summary of aircraft movements for the reporting period by movement category.

Table 2: Movements summary by type

Category	Jan	Feb	Mar	Apr	May	Jun	Report 1 Total
Business	1537	1629	1703	1545	2091	2338	**10843**
Helicopter	52	62	40	68	112	102	**436**
Subtotal (Planning Agreement Movements)	**1589**	**1691**	**1743**	**1613**	**2203**	**2440**	**11279**
Flying Club	5	13	20	53	49	64	**204**
Military	12	2	10	5	3	7	**39**
Other	75	89	77	118	120	114	**593**
SBAC	0	0	0	0	0	0	**0**
Total	**1681**	**1795**	**1850**	**1789**	**2375**	**2625**	**12115**

3.2 Figure 7 displays a summary of movements by category for weekdays. Figure 8 display a summary of movements by category for weekends.

Figure 7: Percentage of Weekday Movements by Type, January to June 2013

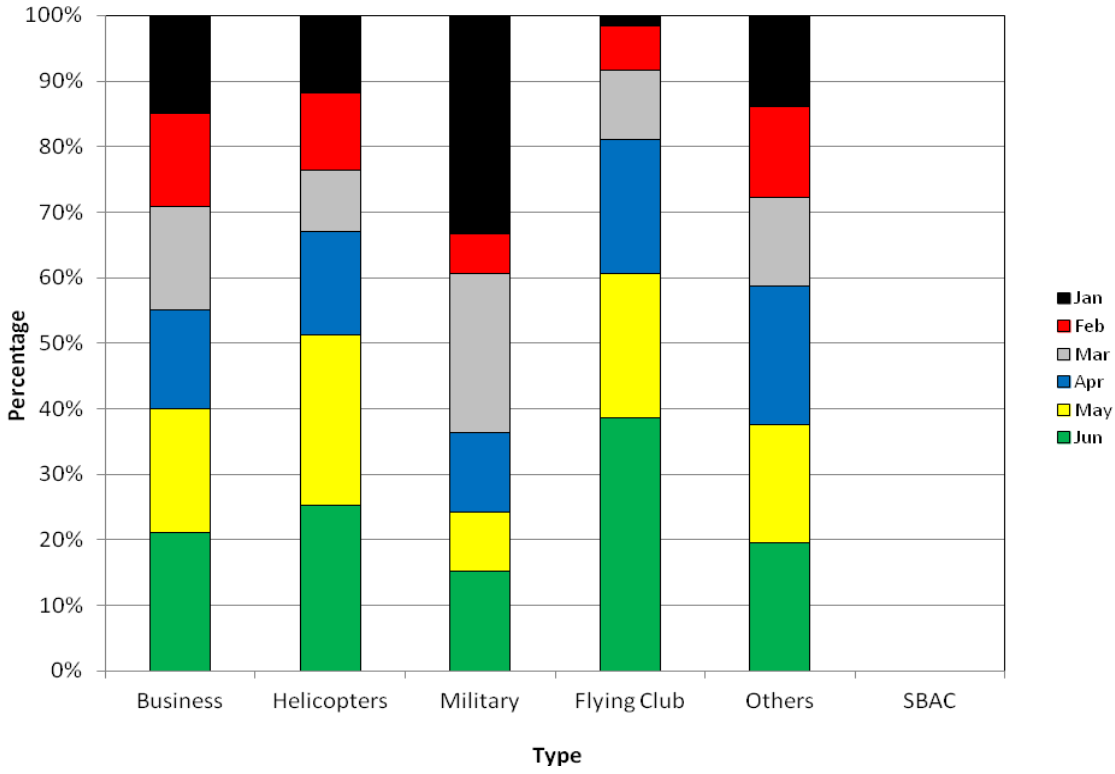
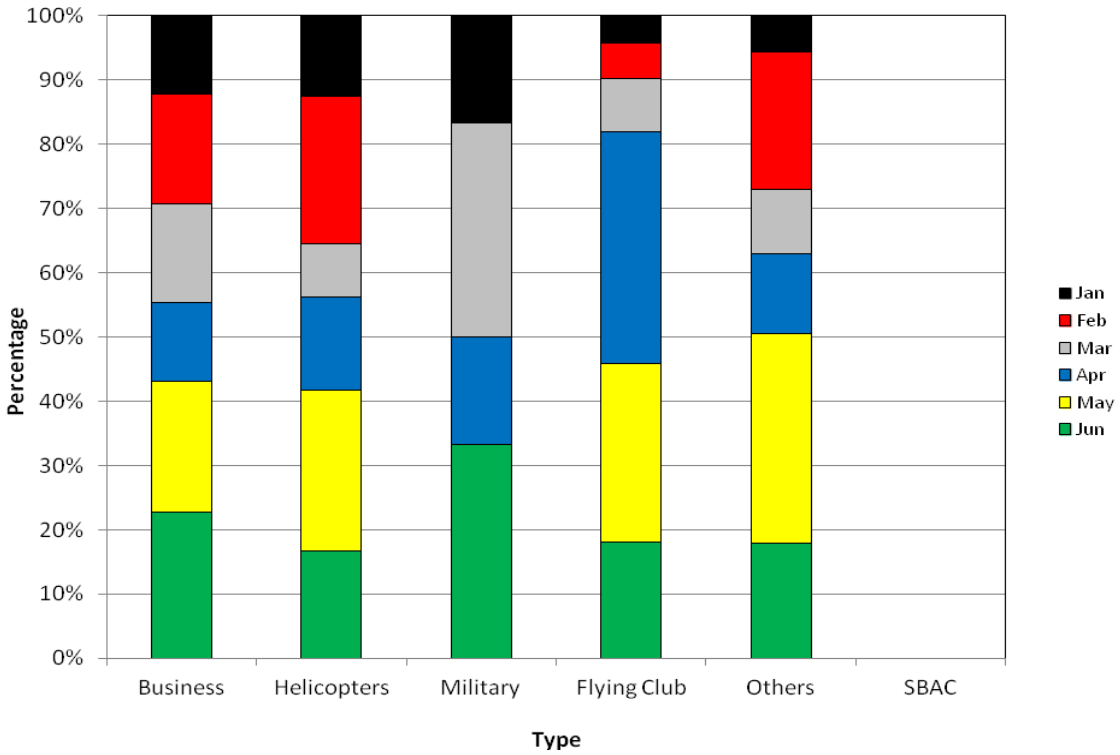


Figure 8: Percentage of Weekend and Bank Holiday Movements by Type, January to June 2013.



3.3 Figures 9 to 15 display information regarding runway use and operation. Operation refers to whether the movement was a departure or an arrival.

Figure 9: ***Monthly Movements by Runway Used and Operation January 2013***
Key: A-Arrival, D-Departure, Other- Non runway traffic (helicopters)

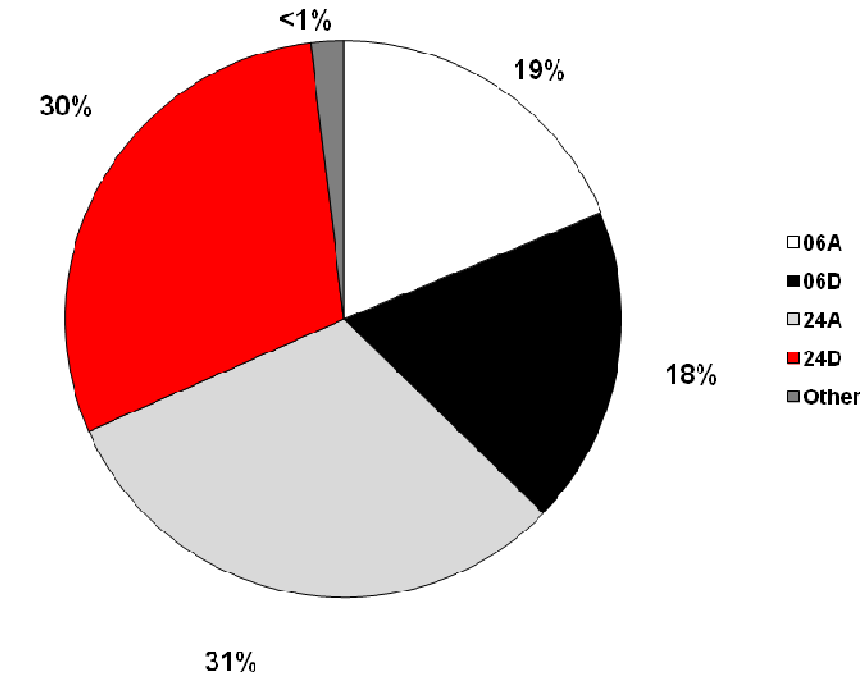


Figure 10*:** ***Monthly Movements by Runway Used and Operation February 2013
Key: A-Arrival, D-Departure, Other- Non runway traffic (helicopters)

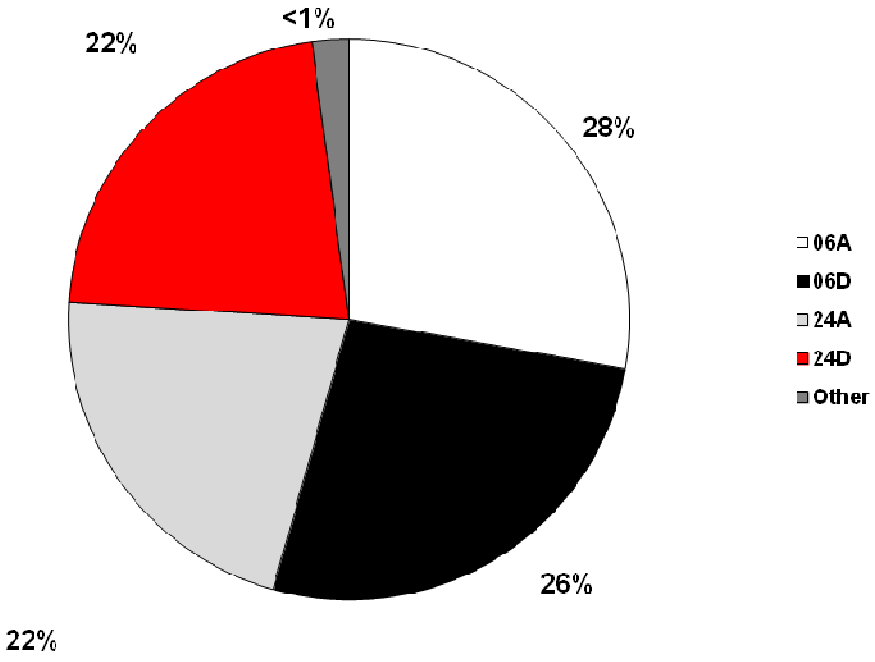


Figure 11: ***Monthly Movements by Runway Used and Operation March 2013***
Key: A-Arrival, D-Departure, Other- Non runway traffic (helicopters)

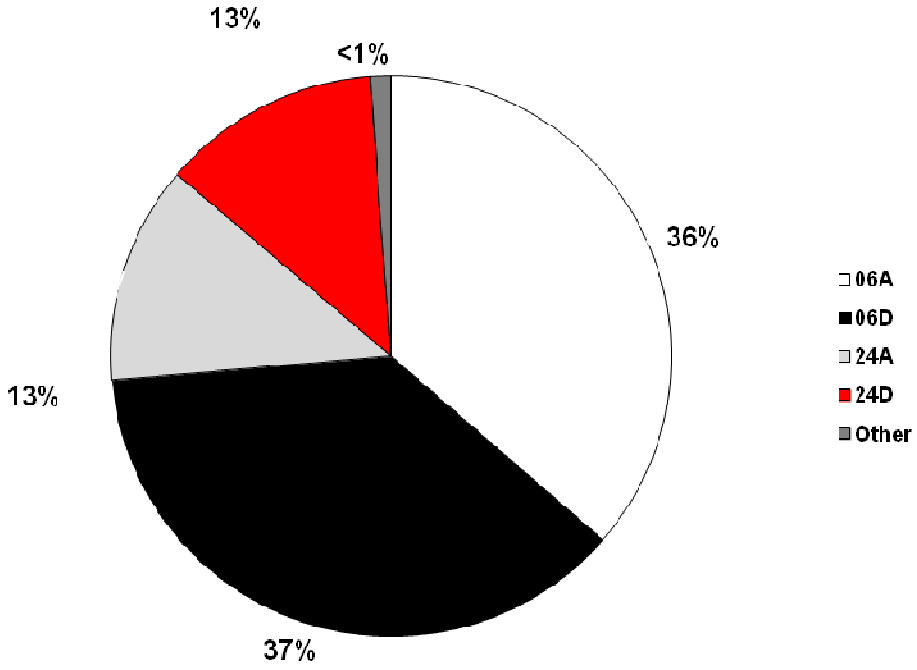


Figure 12: ***Monthly Movements by Runway Used and Operation April 2013***
Key: A-Arrival, D-Departure, Other- Non runway traffic (helicopters)

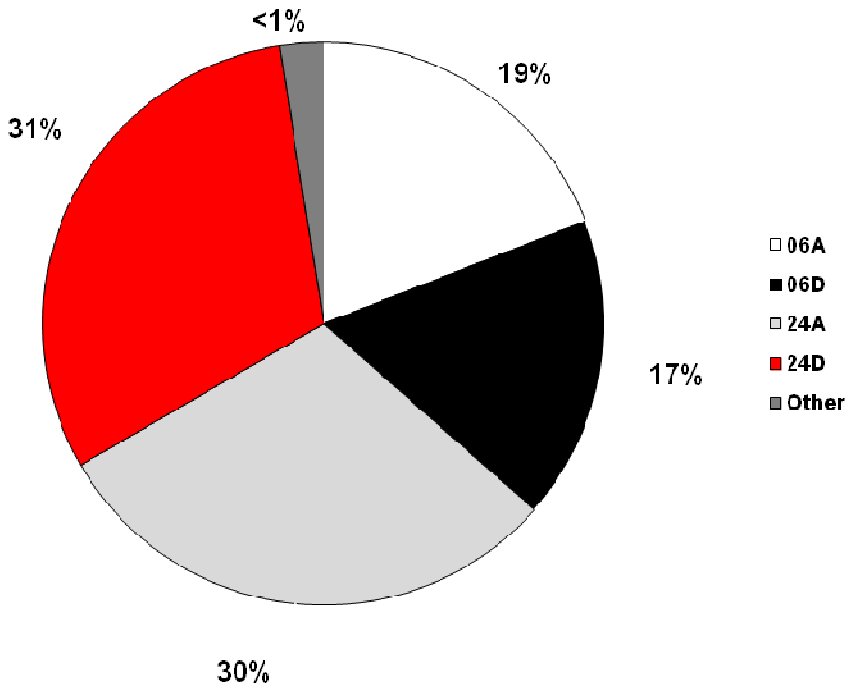


Figure 13: ***Monthly Movements by Runway Used and Operation May 2013***
Key: A-Arrival, D-Departure, Other- Non runway traffic (helicopters)

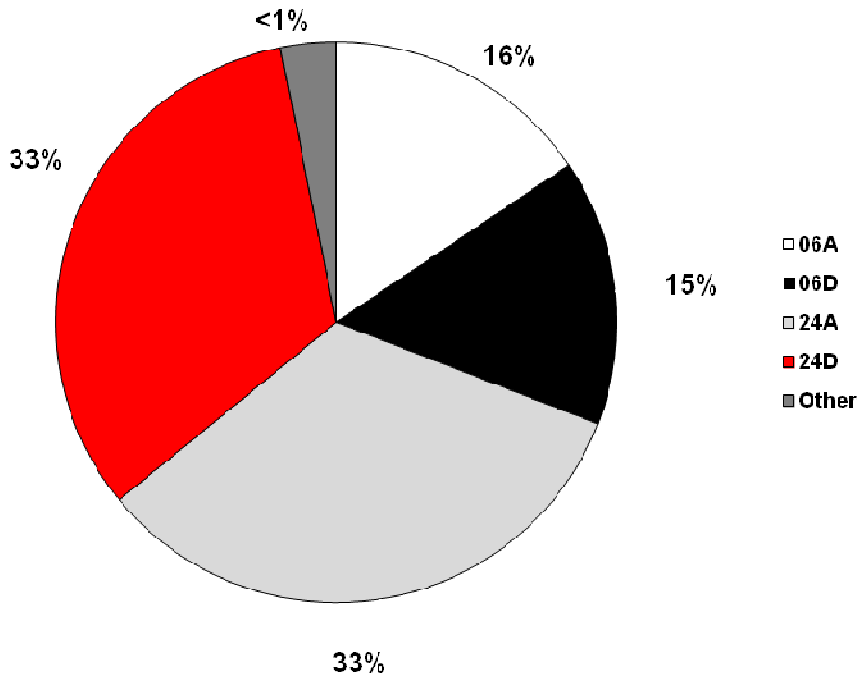


Figure 14: ***Monthly Movements by Runway Used and Operation June 2013***
Key: A-Arrival, D-Departure, Other- Non runway traffic (helicopters)

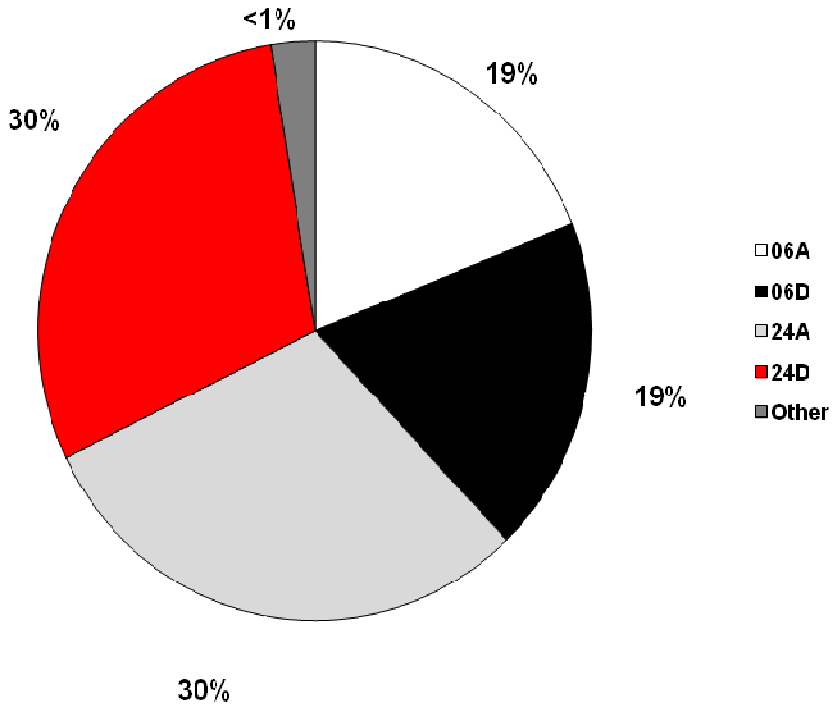
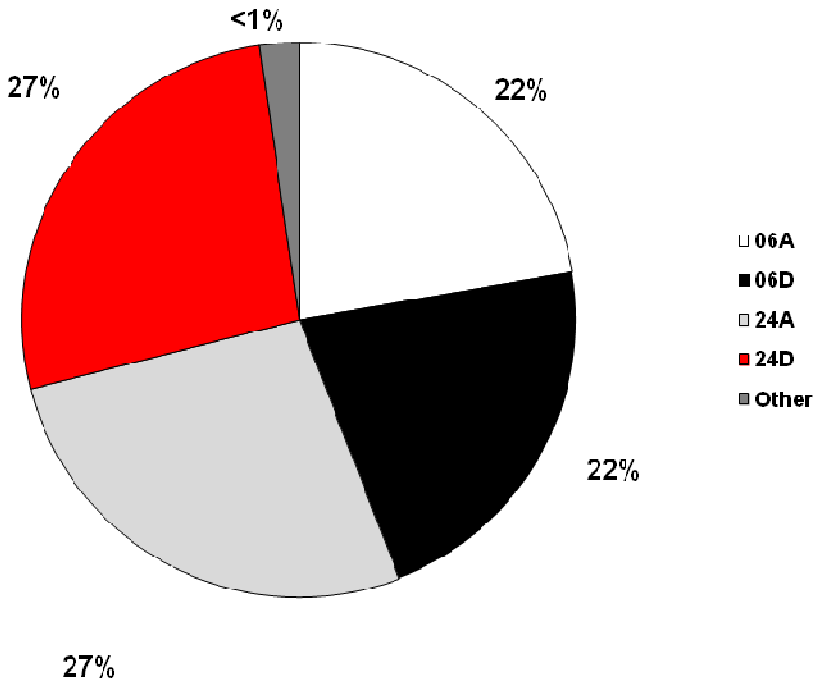
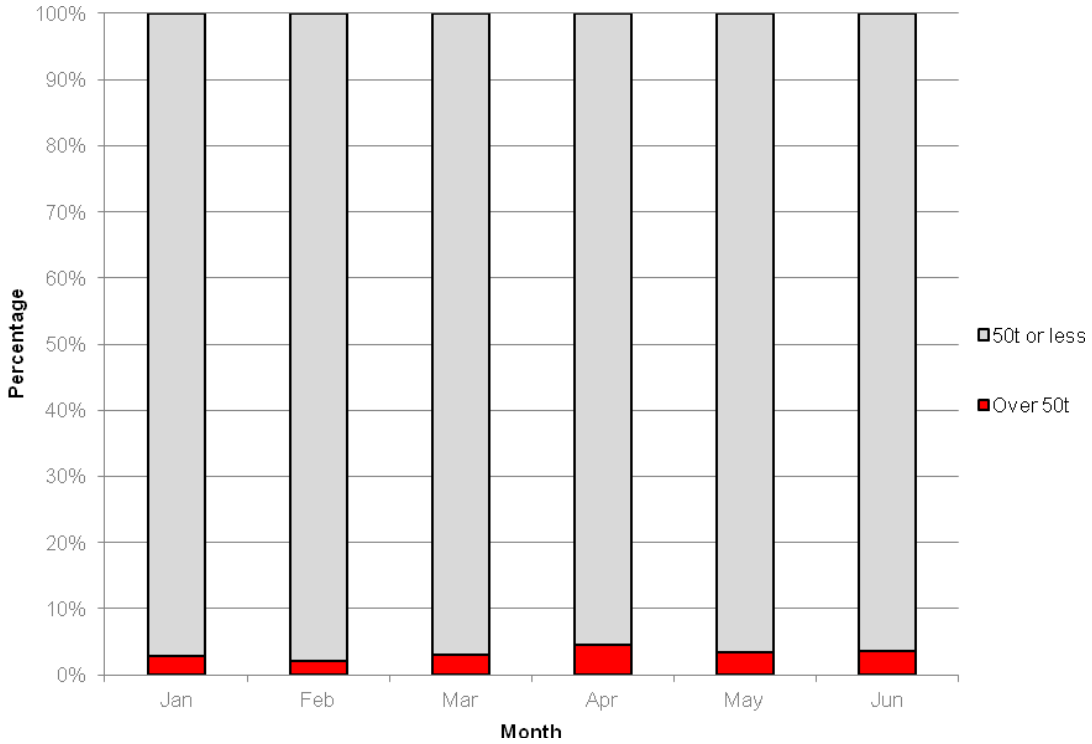


Figure 15: ***Overall runway usage split for January to June 2013***
Key: A-Arrival, D-Departure, Other- Non runway traffic (helicopters)



3.4 Maximum Take-Off Weight (MTOW) is recorded for all operating aircraft. Figure 16 displays a summary of the MTOW of aircraft operated during the reporting period.

Figure 16: ***Percentage of movements by Maximum Take-Off Weight (MTOW) January to June 2013.***



3.5 All civil aircraft using Farnborough between during the reporting period were compliant with the International Civil Aviation Organisation (ICAO) Chapter 4. All aircraft must provide certification of Noise Chapter prior to permission being granted to operate.

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

4. AIR QUALITY MONITORING

4.1 The locations of the thirteen nitrogen oxide diffusion tubes and the two Learian Streetbox monitors remain as previously reported, to see details of the locations of the monitors please refer to previous reports prior to the first quarter of 2005.

4.2 Table 3 displays the standards accepted by the Government and recommended by the expert panel on air quality standards.

Table 3: Objectives to be included in regulations for the purposes of local Air Quality Management

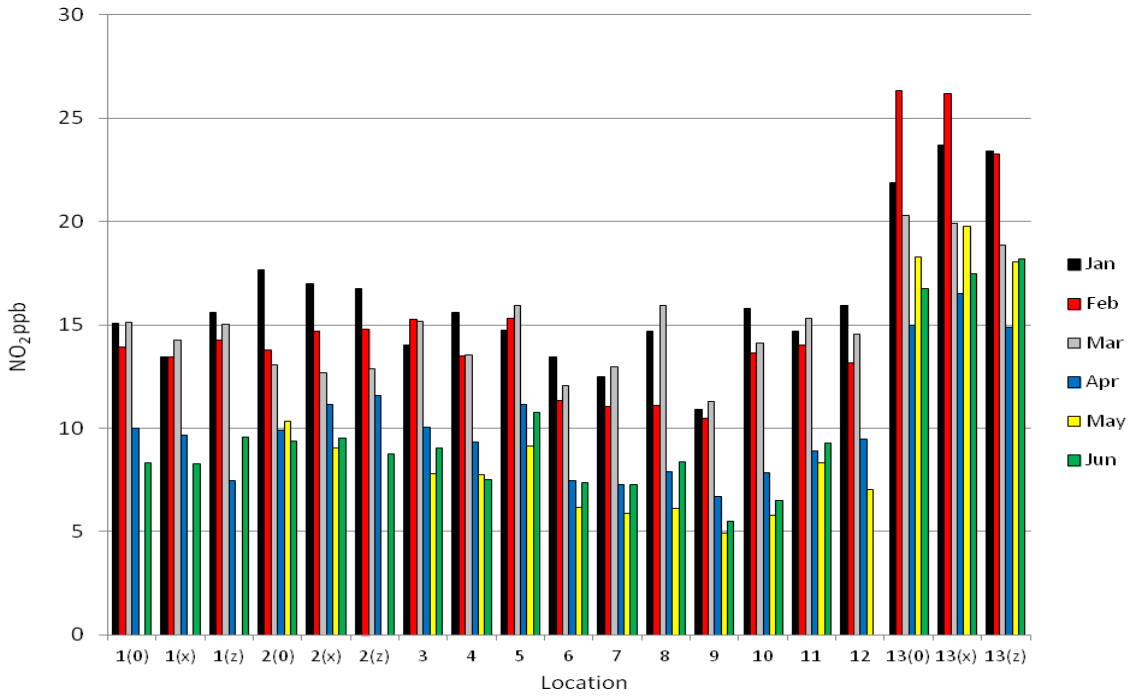
Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
NO_2	200µg/m^3 (105ppb) not to be exceeded more than 18 times a year	1 hour mean	31st Dec 2005
NO_2	40µg/m^3 (21ppb)	annual mean	31st Dec 2005

[a] Conversions of ppb and ppm to µg/m^3 and mg/m^3 at 20ºC and 1013mb.
ppb = parts per billion µg/m^3 = micrograms per cubic metre.
Source: http://aqma.defra.gov.uk/objectives.php

4.3 Air quality monitoring results consist of raw and manipulated from the diffusion tube laboratory analysis. Data taken from the Learian Streetbox Monitors consists of hourly mean concentrations of NO_2. As this data is extensive when covering a six-month period, it has been displayed as monthly means for the purpose of this report.

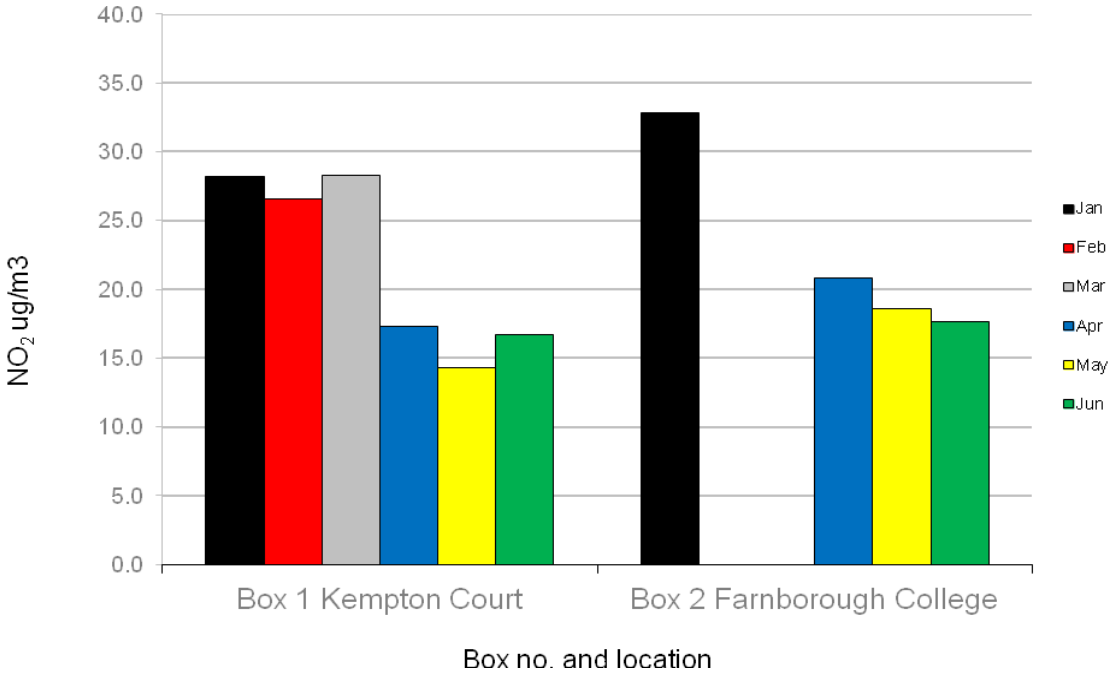
4.4 The passive and active NO_2 monitoring results are detailed in Figures 17 and 18.

Figure 17: NO_2 Diffusion Tube Results, January to June 2013



N.B. ppb - parts per billion expressed as a monthly mean. This data has not had a bias adjustment applied

Figure 18: NO_2 concentrations as recorded by Learian Streetbox Monitors, January – June 2013



N.B. µg/m3 expressed as a monthly mean

4.5 Due to a failure of the operating system with the Learian Streetbox Monitor located at Farnborough College in early February 2013, there is an absence of data relating to February and March 2013. During this time the unit was dispatched to the official service department and subjected to a number of test and replacement works. The repaired and fully functioning unit was returned to service on the 16th April and therefore data for this month is only calculated using 14 days of data.

4.6 The results taken from the diffusion tubes and Learian Streetboxes indicate that NO_2 levels around the airfield during the reporting period have achieved the objectives to be included in the regulations for the purpose of Air Quality Management and no significant changes are identifiable at the other locations in the surrounding community.

4.7 Continuing trends in the results obtained indicate terrestrial sources of NO_2 as the predominate source. The elevated levels consistently recorded for location 13 adjacent to the M3 motorway illustrate this.

5. CONCLUSION

5.1 Routine monitoring of compliance with noise abatement routes, air quality targets, and aircraft movements continues at the Airport. To date, all environmental monitoring undertaken has been implemented in accordance with the regulatory requirements and those of the Town and Country Planning Act Section 106 Agreement.

5.2 All movements operated at the airport are restricted to those permitted by the terms of the planning consent and the accompanying agreement.

5.3 Nitrogen dioxide levels recorded remain consistent with previously noted trends.

5.4 The activities at the airport remain within the specifications of the Section 106/299A agreement.

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26/07/2013

Appendix A

Noise Data Report 1

dB(A) Leq16 (Total) by Day of Month and NMT

Farnborough Airport

Jan-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	49.4	46.7	49.4	48.6	51.8	54.7	52.9	52.0	50.3	51.5	55.8	49.0	56.4	52.5	53.6	53.2	54.8	50.2	53.2	53.0	54.9	53.6	53.6	53.3	50.4	53.7	52.9	53.0	50.0	53.3	53.7
NMT 3	52.2	52.3	52.2	53.3	53.5	53.6	54.8	55.7	51.7	54.3	55.1	51.8	57.8	55.6	54.9	57.4	57.1	52.8	57.4	56.6	57.5	57.7	57.7	54.9	53.4	57.3	58.2	57.1	53.4	59.5	57.3

Feb-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
NMT 2	58.3	53.6	56.9	53.4	54.5	52.4	54.2	56.0	54.5	51.4	52.5	52.6	51.4	54.5	54.2	53.2	51.3	50.6	52.7	52.9	53.6	53.5	55.8	52.3	52.4	52.9	52.7	49.9
NMT 3	53.0	54.9	53.4	55.7	53.3	55.6	57.2	53.6	57.4	54.6	56.4	56.9	53.5	54.5	54.1	54.6	53.9	55.2	54.9	54.0	56.3	55.7	52.6	51.7	56.3	56.2	55.0	52.6

Mar-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	51.0	52.2	54.9	52.8	52.2	49.2	67.1	69.0	70.0	67.8	55.8	55.4	52.0	52.2	51.6	53.7	57.4	52.6	52.2	50.1	53.6	53.6	52.7	52.5	55.7	54.2	55.2	52.0	49.5	51.9	52.3
NMT 3	56.1	55.6	57.5	55.6	55.9	52.3	53.0	57.3	52.8	58.0	56.0	57.4	52.0	54.0	55.7	56.6	53.9	51.4	55.9	54.1	57.2	55.5	56.9	55.5	58.0	55.8	57.5	53.4	53.7	54.7	54.6

Apr-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
NMT 2	52.3	54.0	55.9	53.8	50.7	51.6	52.6	54.6	52.3	87.6	48.4	49.6	69.9	67.0	54.1	50.7	51.8	50.1	51.6	53.5	53.9	51.7	51.4	53.7	50.6	53.4	52.0	53.8	53.3	52.7
NMT 3	56.6	54.5	57.6	56.2	54.3	55.4	55.6	56.4	56.4	86.0	51.5	50.8	55.1	52.9	56.8	55.6	55.7	54.3	52.4	56.2	56.2	53.5	57.0	55.4	53.3	54.1	55.9	58.0	56.0	56.9

May-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	54.4	52.6	56.7	52.7	53.5	52.2	53.0	51.7	56.9	53.4	50.7	53.6	55.6	50.2	54.4	52.6	53.8	61.7	64.5	63.9	55.1	56.1	52.2	51.7	49.6	59.9	52.8	53.1	57.3	48.7	51.7
NMT 3	56.6	53.3	52.0	55.2	55.1	56.8	57.9	57.5	57.5	55.3	54.5	57.2	56.7	52.6	57.6	56.8	57.6	55.4	57.4	57.0	57.8	57.1	52.4	52.7	53.8	56.4	56.5	57.7	54.6	51.4	53.9

Jun-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
NMT 2	52.3	51.5	51.5	50.3	49.7	49.1	50.1	51.1	52.4	50.8	52.5	52.4	56.6	50.3	52.2	55.7	54.0	53.8	55.0	52.0	53.0	52.5	51.1	51.6	55.3	49.9	51.1	53.9	53.4	52.6
NMT 3	56.7	58.1	59.2	54.1	52.6	55.1	54.1	54.9	57.6	50.8	55.6	56.1	57.7	53.6	55.9	57.8	56.5	54.9	57.4	57.6	53.2	56.0	55.4	58.0	57.6	54.1	55.6	57.7	59.7	57.8

Noise Data Report 1

dB(A) Leq16 (Event) by Day of Month and NMT

Farnborough Airport

Jan-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	46.6	41.8	46.6	43.3	49.5	49.9	50.4	49.6	45.4	47.3	52.3	45.9	54.5	49.4	50.0	47.3	51.5	45.9	47.3	48.3	50.7	49.1	49.1	49.0	43.9	50.1	50.3	49.3	43.6	49.3	50.8
NMT 3	45.6	45.0	45.6	50.3	47.1	46.2	51.3	50.7	44.9	50.4	51.7	48.7	54.8	52.2	51.7	54.0	54.6	50.7	54.0	53.8	54.8	54.1	54.1	51.8	49.1	54.6	56.4	54.7	48.9	58.3	54.8

Feb-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
NMT 2	54.2	50.1	54.7	50.7	50.1	49.5	52.5	52.6	50.8	48.5	50.5	49.1	48.9	50.6	50.6	50.9	48.4	48.0	50.4	51.1	48.2	50.9	54.4	48.2	48.5	49.7	48.7	45.4
NMT 3	48.8	51.7	49.4	52.7	50.2	52.8	55.3	50.8	54.2	50.6	54.7	54.5	50.4	51.5	50.9	51.5	51.2	53.1	52.6	51.1	52.0	52.5	52.1	47.2	54.1	53.5	52.2	48.7

Mar-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	50.8	46.2	51.7	49.3	49.3	45.8	59.4	58.9	59.4	58.7	50.7	50.5	48.0	47.2	48.8	49.3	52.1	49.2	48.9	44.4	48.9	48.6	47.0	49.1	53.3	52.7	51.0	48.2	44.8	49.3	50.8
NMT 3	53.0	52.2	53.8	52.5	53.4	49.3	49.7	54.9	48.5	56.3	53.0	54.1	47.0	52.0	52.2	53.1	50.4	49.8	52.2	49.9	53.4	51.3	53.0	52.2	53.3	51.0	55.2	47.2	51.1	51.0	52

Apr-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
NMT 2	48.1	47.6	52.1	51.9	46.3	47.3	49.4	49.9	47.0	84.2	44.3	47.1	61.2	60.1	51.9	48.3	49.2	47.4	45.2	46.4	52.7	49.2	47.3	49.2	47.4	53.2	48.6	51.1	50.4	50.1
NMT 3	54.7	52.6	56.1	53.6	52.5	52.5	52.5	54.0	53.8	84.5	47.1	48.0	53.4	48.6	55.0	53.4	53.7	52.3	46.0	53.6	52.4	50.1	54.5	52.2	50.4	51.1	53.5	55.8	52.7	54.4

May-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	51.9	48.7	49.6	49.3	48.8	49.2	48.9	49.6	54.0	48.3	47.0	51.8	51.9	46.1	52.3	49.0	48.3	54.4	55.9	53.0	52.9	53.5	46.7	46.1	46.9	54.9	51.9	48.5	55	44.2	48
NMT 3	54.4	51.2	48.0	52.7	52.0	54.9	56.1	55.9	54.6	53.8	52.4	54.8	53.5	49.4	55.3	54.3	55.4	53.5	55.2	55.0	56.1	54.4	46.9	49.4	51.5	53.1	53.1	55.0	50	47.8	52.2

Jun-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
NMT 2	48.3	49.4	49.2	47.5	47.3	46.4	46.7	46.4	51.0	48.4	50.4	50.4	54.2	48.5	50.0	52.9	52.6	51.4	51.2	50.1	49.8	51.0	48.0	49.3	51.2	46.6	47.7	52.5	51.5	50.3
NMT 3	54.8	56.4	56.4	49.7	47.9	53.5	51.0	52.2	55.9	46.0	52.7	53.8	55.1	51.4	53.3	55.2	54.6	50.8	55.6	56.3	50.6	53.7	52.8	56.6	55.8	50.9	53.3	55.5	57.4	55.8

Noise Data Report 1

dB(A) Leq16 (Background) by Day of Month and NMT

Farnborough Airport

Jan-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	46.2	45.0	46.2	47.1	48.1	53.0	49.5	48.4	48.6	49.4	53.6	46.0	53.8	49.7	51.2	51.9	52.2	46.5	51.9	51.3	53.0	51.8	51.8	51.4	49.4	51.2	49.5	50.6	48.9	51.2	50.6
NMT 3	51.1	51.4	51.1	50.2	52.4	52.7	52.2	54.2	50.7	52.0	52.5	48.0	54.8	52.9	52.0	54.7	53.6	51.6	54.7	53.4	54.3	55.2	55.2	52.1	51.4	54.0	53.4	53.6	51.5	53.5	53.7

Feb-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
NMT 2	56.8	51.7	53.5	50.3	52.7	49.2	49.3	53.6	52.1	48.3	48.1	50.2	47.8	52.3	49.9	49.3	48.3	47.2	48.9	48.2	52.2	50.1	54.5	50.2	50.2	50.2	50.6	48.1
NMT 3	50.8	52.1	51.2	52.6	50.5	52.4	52.9	50.4	54.6	52.4	51.5	53.2	50.7	51.5	51.3	51.7	50.5	51.1	51.1	50.8	54.3	52.8	48.1	49.9	52.2	53.0	51.8	50.3

Mar-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	50.1	51.0	52.1	50.3	49.1	46.5	65.9	68.3	69.4	67.2	54.6	53.9	49.8	50.6	48.4	51.8	56.6	52.0	49.6	48.8	51.9	52.0	51.4	49.8	50.0	51.5	53.2	49.6	47.8	48.6	46.9
NMT 3	53.1	52.8	55.1	52.8	52.3	49.3	50.2	53.4	50.9	53.1	52.9	54.6	50.3	49.8	53.2	54.0	51.3	50.1	53.6	52.1	54.8	53.4	54.7	52.6	56.2	54.1	53.7	52.1	50.4	52.4	51.1

Apr-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
NMT 2	50.4	52.9	53.7	49.5	48.7	49.7	49.8	53.0	50.9	82.9	46.3	46.3	68.1	66.1	50.2	47.1	48.4	46.8	50.5	52.7	47.9	48.3	49.3	51.9	49.4	48.6	49.4	50.6	50.3	49.2
NMT 3	52.2	50.2	52.1	52.8	49.6	52.4	52.8	52.6	52.9	82.6	49.5	47.6	50.3	50.8	52.0	51.6	51.5	50.1	51.2	52.8	53.8	50.9	53.3	52.5	50.3	51.2	52.2	54.2	53.3	53.4

May-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NMT 2	51.1	48.5	55.7	50.2	51.9	49.2	50.9	47.6	54.2	51.9	48.3	49.2	53.4	48.1	50.5	50.1	52.6	59.2	62.7	61.6	51.3	53.1	50.7	50.3	46.4	58.8	47.9	51.2	54	46.8	49.3
NMT 3	52.5	49.2	49.8	51.5	52.1	52.2	53.3	52.4	54.4	50.3	50.3	53.5	53.9	49.7	53.7	53.2	53.6	50.8	53.3	52.7	53.0	53.8	50.9	50.0	49.9	53.7	53.8	54.4	52.8	49.0	49.2

Jun-13

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
NMT 2	50.1	47.6	47.8	47.1	46.1	45.8	47.4	49.3	47.2	47.0	48.5	48.1	53.4	45.7	48.4	52.5	48.4	47.4	52.8	47.6	50.2	47.2	48.3	47.7	53.2	47.2	48.5	48.6	49.0	48.8
NMT 3	52.2	53.0	56.0	52.1	50.8	49.8	51.2	51.5	52.7	49.0	52.4	52.2	54.2	49.5	52.5	54.5	52.1	50.0	52.6	51.7	49.8	52.2	52.0	52.2	52.9	51.2	51.9	53.6	56.0	53.5