



TAG Farnborough Airport Ltd

Town and Country Planning Act Section 106/299A

Performance Monitoring Report 2007

Clause 10a of the Town and Country Planning Act Section 106/299A Agreement between TAG Farnborough Airport Ltd and Rushmoor Borough Council, in respect of Planning Consent Reference 99/00658/OUT states:

“Within 6 weeks of the end of each calendar year, the Company shall submit to the Council a performance monitoring report detailing the performance of the Company against the objectives set out in this agreement, in a manner to be agreed with the Council.”

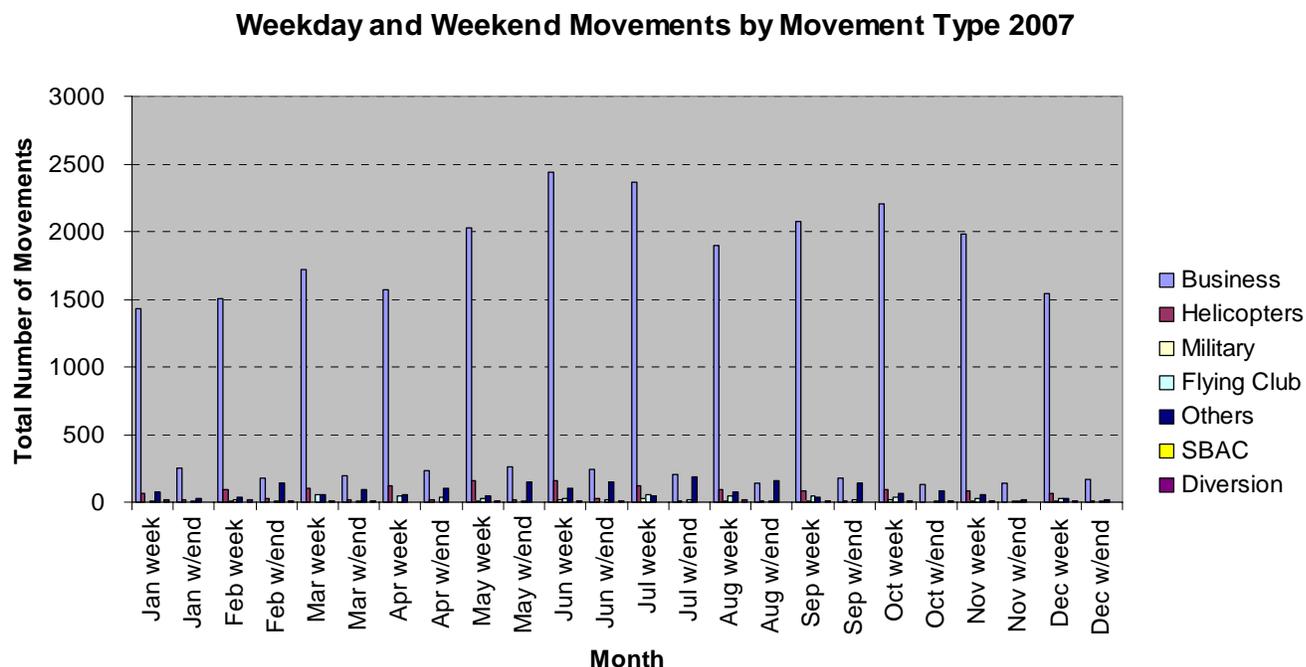
TAG Farnborough Airport hereby submits this report summarising the Airport's performance against the requirements laid out in the Section 106/299A agreement in compliance with the requirements of clause 10 of that agreement. Every clause of the section 106/299A Agreement is taken in turn and any performance information relative to 2006 supplied.

Aircraft Movement Records

Clause:

- 1a. Detailed records are maintained of every aircraft movement that takes place at the airport. Details stored include: time and date of the movement, movement type (arrival, or departure) callsign, departure airport (if applicable) destination airport, aircraft registration, aircraft type, maximum take-off weight, aircraft ICAO Chapter, and runway used.
- 1b. A Personal Computer linked to both the agreed recording system (the Brüel and Kjær Noise and Track Monitoring System (NTMS)) and to Rushmoor Offices is provided for use by Rushmoor Council Officers.
- 1c. Quarterly reports summarising the data required by clauses 2r, and 2s, have been submitted to Rushmoor, each within 4 weeks of the end of each quarter. Reports are supplied in both hard and soft copy format.

Figure 1: 2007 Movements by Movement type



Noise Control

- 2a. Airport based, contracted Air Traffic Controllers operate on TAG’s behalf ensuring adherence to arrival and departure procedures and safe separation of TAG and non-TAG operated traffic. Operating procedures are implemented to meet the required annual noise budget, defined by the position and total land area within the 55dBA and 60dBA Leq¹⁶ (16hour) contours.
- 2b. During 2007 the airport has continued to operate successfully within the contour areas referenced above.

Table 1: Control contour areas as specified in 99/00658/OUT and INM Conotour Areas for 2007 (six month and 12 month interval)

Leq ¹⁶ dBA	Predicted 20,000 movements (1997 mix) (Km2)	Jan - Jun 2007 (Km2)	Jan - Dec 2007 (Km2)
55	9.07	4.43	4.66
60	4.03	1.79	1.88
65	1.70	0.96	0.98

- 2c. All references to aircraft noise and noise controls within the existing planning consent are based on the noise metric of Leq¹⁶. The NTMS records Leq¹⁶, SEL, and EPNL for each individual aircraft noise event. All values are expressed as dBA (A-weighted).

All values are calculated from recorded, aircraft derived noise and excludes (as far as practicable) background noise. As is evident from Table 2 below, the calculated EPNdBs for aircraft operating at Farnborough fall well below the local plan policy limit of 98.9 EPNdB

Table 2: Average EPNdB levels for top 10 aircraft by type, using Farnborough in 2007.

Aircraft Type	Average EPNdB	Aircraft Type	Average EPNdB
B462	85.1	GLF5	81.5
BE20	83.3	H25B	88.8
C56X	84.6	LJ45	85.5
C550	77.4	PRM1	81.3
CL60	85.4	F900	84.8

- 2d. Standard operating procedures at the airport are continually reviewed to achieve a reduction in the noise impact of flying. TAG monitors all aircraft tracks and noise events using a Noise and Track Monitoring System (NTMS). The Federal Aviation Authorities Integrated Noise Model (INM) is used twice yearly to produce noise contours based on actual aircraft fleet mix and imported radar tracks from aircraft using the airport. TAG have now been operating under the terms of the planning consent granted (and CAA License) for five years and the first review of the noise contours is due to take place this year.
- 2e. Pilots use of reverse thrust on landing is a procedure required by many operator flight manuals as a safety aid. It would not be appropriate for TAG to dictate guidelines for the use of reverse thrust as its use is entirely dependant on flight conditions. TAG Paragraph f. of AD 2-EGLF-1-9 (UK AIP) that refers to Farnborough, reads:-

“To minimise disturbance in areas adjacent to the aerodrome, commanders of aircraft are requested to avoid the use of reverse thrust at all times, consistent with the safe operation of the aircraft. Where the use of reverse thrust is essential, the use of idle reverse thrust should be used in preference.”

Use of reverse thrust is monitored by NATS on behalf of TAG. In addition and when operationally practicable, Air Traffic Control initiate the use of “Rolling Take Off’s”. These procedures aid reduction in noise and disturbance by minimising engine run up from the holding position prior to take off.

- 2f. TAG banned entry to the airport by ICAO Chapter 2 aircraft in January 2001. The ATP 748 Jetstream aircraft has also been phased out and is no longer permitted to use the airport.

All aircraft using the airport are certified ICAO noise Chapter 3 compliant or have been subject to hush kitting to ensure compliance. Studies carried out at the airport have indicated that noise level certification for the majority of aircraft currently using the facility, comply with the latest and most stringent manufacturing standard: ICAO Chapter 4.

- 2g. Details of preferred noise routes were submitted to and agreed by Rushmoor Borough Council in compliance with this clause 2g of the agreement. The preferred noise routes in use have been accepted by the CAA and are published in the UK Air Pilot (UK AIP) as required. All entries in the UK Air Pilot are regularly transferred and included in updates of the comparable US Flight information publication "Jeppersons".

As a part of the continued commitment of TAG to reducing noise and disturbance from aircraft operations, a trial of new noise abatement procedures commenced in May 2007. The trial which forms a part of the Farnborough Airport Quiet Flying Program was designed in agreement with Rushmoor Borough Council as per the requirements of clause 2g and in conjunction with local resident group representatives, Air Traffic Control and TAG Management. Consultation was also held at the FACC meetings.

The trial commenced on the 1st May 2007. The trial procedures stated that all departures from TAG Farnborough Airport must remain on the runway heading for two and a half nautical miles before initiating a turn. Arrivals were required to follow the standard 3.5° glide slope and establish on the extended centreline of the runway (on the ILS) at no less than three nautical miles. A further stipulation dictated that visual approaches must also establish on the extended centreline no less than three nautical miles.

These temporary operating procedures, approved by the CAA and promulgated by NOTAM, were designed to prohibit aircraft from making early, tight and low altitude turns over the residential areas that surround the Airport.

On the 9th May, due to Air Traffic Control constraints regarding runway 06 departures and the close proximity of the Heathrow Control Zone, the departure procedure for runway 06 was amended to two nautical miles before initiating a turn. On the 8th June, due to ATC constraints regarding runway 24 departures and the close proximity of RAF Odiham, the departure procedure for runway 24 was also amended to two nautical miles before initiating a turn.

The trial continued throughout 2007 with a full report submitted to the FACC on the 12th July and a follow up at the FACC meeting on the 1st November. The noise abatement procedure trial currently has no scheduled completion date and will continue to be refined in 2008.

The Brüel and Kjær Noise and Track Monitoring System (NTMS) that records full details of all aircraft radar tracks in the Farnborough radar zone (including speed, altitude and location for all radar information points) has remained in use through the year. All aircraft track information has been stored for future reference.

- 2h. All TAG Farnborough departure and arrival radar tracks are checked individually using the Noise and Track monitoring system for adherence with current procedures.

A standard infringement procedure has been successfully implemented to address aircraft that fail to abide by the requirements of the noise abatement procedures without the consent of Air Traffic Control.

All aircraft operators that are identified as responsible for procedure infringements are contacted by letter and provided with track map evidence of the infringement. Acknowledgement of the infringement is requested along with an explanation of the circumstances and details of measures that are to be implemented to ensure future compliance.

Table 3 below shows the number of recorded Noise Abatement Procedures infringements in 2007. As this data shows there was a significant increase in infringements following commencement of the noise abatement trial. This increase is testament to our tightened procedures and zero tolerance policy. Numbers of infringements in the final quarter of the year show a further increase. This can be attributed to the wind conditions across the winter months which on some occasions, causes drift from the agreed procedure track. Such circumstances are reflected in responses received from aircraft operators that have been contacted as a part of our standard procedure.

Table 3: Noise abatement Infringements pursued

Period	Total Infringements	Total Responses Received.
January to March	15	14
April to June *	6	4
July to September *	54	34
October to December	74	31

* Recording of Aircraft Track Infringements was suspended between May and July inclusive whilst the Quiet Flying Program was initiated and the Trial Noise Abatement Procedures developed and refined.

- 2i. Aircraft ground operations are monitored by Air Traffic Control. A dedicated engine ground running point has been established at the furthest distance from the boundary of the airport. Essential engine ground running only is permitted at weekends and public holidays, and is restricted to the hours of 09:00 and 20:00. Four silent fixed electrical Ground Power Units (GPU's) have been installed by TAG to reduce the requirement for aircraft to operate their Auxiliary Power Units (APU's). In order to encourage use of the units, temporary buildings were removed from the area improving their accessibility. In addition to this action their usage was declared free of charge. Less than 1% of complaints received this year referred to ground noise

The reduction of the potential for disturbance is a primary consideration in all areas of airport ground operations and forms an active part of the Farnborough Airport Quiet Flying Program.

- 2j. Ground running of engines is only permitted to take place between the hours of 08:00 and 20:00 Monday to Friday (one hour later in summer) excluding public holidays. Prior permission for aircraft engine start-up is required from the duty air traffic controller. Engine testing is also restricted and is only permitted at the authorised Engine Ground Running Bay (see 2i)
- 2k. Auxiliary Power Units (APU's) are not permitted to be operated between 22:30 and 06:30.
- 2l. Due to re-development, the area shown on the plan *TOR 158901/SK7129/8/2000* is now outside of the airside boundary. As a result this area is no longer accessible to aircraft for parking and the restrictions detailed in clause 2l do not apply.
- 2m. All TAG helicopter pilots are required to operate in accordance with minimum noise procedures, as agreed by Rushmoor.
- 2n. No residential, academic or health care properties have been found to lie within the 60dBA Leq¹⁶ (16 Hour Annual average) contour. The 60dBA Leq¹⁶ noise contour lies within the airport boundary.

2o. The INM model has been prepared and run 8 times in total since the completion date, at the intervals prescribed by clauses a – e of paragraph 2o of the Agreement. The results of all modelling exercises have been supplied to Rushmoor Borough Council. Results of the latest modelling exercise based on the operations of calendar year 2007, was submitted to Rushmoor Borough Council in early February 2007.

2p. Noise event data is recorded by the two permanent Noise Monitoring Terminals, twenty four hours a day. All recorded noise events are automatically correlated with TAG aircraft wherever appropriate. This process is then manually validated. All noise monitoring data was supplied to Rushmoor Borough Council as a part of the Quarterly Environment Reports

The third noise monitor (portable) was rendered unserviceable and beyond repair following the floods in late July 2007. A replacement unit of higher specification was ordered and has now been received. This unit will be employed in the noise monitoring of further Trial Noise Abatement Procedures in 2008.

2q. Appended to this report, (Appendix A) is the response received from the CAA following advice being sought on the need for a further audit of the noise modelling methodology. The CAA report stated no requirement for the audit of the modelling methodology to be repeated until our methodology was amended in any manner. In line with requirements TAG has purchased the latest version of INM (Integrated Noise Model 7.0), however the use of this software has not been possible due to its incompatibility with the INM Link program (which allows actual aircraft tracks to be used in the modelling process). This issue has been raised and acknowledged by the software provider and is currently being investigated.

Also attached in Appendix A is a copy of the original CAA audit report of 2004.

2r. A dedicated PC and real time access to the noise and track monitoring system has been provided for the benefit of Rushmoor Council officers. Quarterly summaries of information as recorded by the noise and track monitoring system, together with details of movements, are routinely provided to Rushmoor Borough Council within four weeks of the end of each quarter.

2s. In line with the requirements of clause 2s and 2p, all data relating to airport and aircraft noise has been submitted to Rushmoor Borough Council within the four Quarterly Environment Reports of 2007.

2t. The noise monitoring regime has remained unaltered since the system was reviewed in conjunction with Rushmoor Borough Council in January 2005. The response to this consultation confirmed acceptance of continued use of the system in its existing format (i.e. 2 permanent 1 portable monitor).

Air Quality

3a. Thirteen air quality monitoring locations have been equipped with passive nitrogen oxide/dioxide monitoring apparatus, (NO_x is widely accepted as the most significant indicator of local air quality with respect to aircraft emissions). Two monitoring sites have active sampling devices (Learian Streetboxes) co-located with the passive diffusion tubes. The combined data from these sites is collected monthly and results published in TAG's Quarterly Environment Reports to Rushmoor Borough Council.

In the second quarter of 2007 the active sampling devices (Learian Streetboxes) were required to be taken out of service for essential maintenance. The required maintenance resulted in a need for re-calibration and as a result there was no active data collected for Quarters 2 and 3 in 2007.

Active monitoring resumed in Quarter 4 of 2007 with data from both units reported as a part of the Quarter 4 Environment Report 2007.

- 3b. The extent and scope of the air quality monitoring regime was considered as a central element of the review carried out in early 2005. Rushmoor Borough Council confirmed their acceptance of the existing monitoring regime detailed above.
- 3c. Full details of air quality monitoring results are included in the Quarterly Environment Reports submitted to Rushmoor Borough Council.

Aircraft Weight

- 4a. In 2007 a total of 398 movements by business aviation aircraft with maximum take-off weights (MTOW) in excess of 50 tons were operated at Farnborough. This figure equates to less than 2% of the overall aircraft movement numbers permitted and reported to Rushmoor Borough Council.
- 4b. No Business Aviation Aircraft with a MTOW in excess of 80 tonnes used the airport in 2007.

Freight

- 5a. No aircraft is permitted to carry more than a total of 100k freight into or out of the airport, except race horses.
- 5b. A total of 100 movements are permitted under the Section 106 agreement, by aircraft carrying racehorses. In 2007 a total of 24 movements involving the transportation of racehorses were operated.

Safety

- 6a. TAG continues to endeavour to improve levels of third party risk associated with the airport, through the use of external contractors recognised as leaders in the field of third party risk modelling, to undertake annual reviews of third party risk associated with the airport's operations.

Results of all of the modelling exercises undertaken to date have shown TAG operations to remain well within the limits as set through the planning process for the airport.

- 6b. Planning Consent 99/00658/OUT includes details of risk contours with which all operations must comply.

In early January 2008, due to unforeseen circumstances that resulted from software updates, the Brüel and Kjær Reporting module was rendered unserviceable. This issue was immediately raised with the providers of the module and has now been rectified.

As a result of the Reporting Module's non operational period, submission of the statistics that are necessary for the production of the Third Party Risk Report (produced by ESR Technology) has been delayed. All necessary statistics have now been submitted to ESR Technology and the Report will be submitted to Rushmoor Borough Council, as Appendix B, before the end of February.

Community benefits and environmental improvements

- 7a. A detailed management plan was submitted in 2003 that included measures to conserve the part of Eelmoor Marsh SSSI located within the airport. The area designated by the council as a Site of Nature Conservation Interest within the aerodrome boundary and has to date successfully translocated three areas of species rich grassland, as defined in the original Environmental Statement accompanying the planning submission.
- 7b. Over the course of 2007 a total of thirteen students have undertaken work experience placements at the airport. In addition twelve students have been enrolled on to the Aircraft Engineering Apprenticeship Scheme which has been set up by TAG in conjunction with Farnborough College of Technology. Of those twelve, four will be selected to take up future employment with TAG Engineering.
- 7c. TAG will shortly provide a total of £54,208 funding to Rushmoor Borough Council for community environment projects. This value reflects contributions levied at an agreed rate of £2 per aircraft movement and £5 per aircraft movement if the aircraft has a Maximum Take Off Weight of over 50t.

Aerodrome Safeguarding

- 8a. An airport safeguarding map was deposited with Rushmoor in December 2003. The submission was accepted by Rushmoor Borough Council and to date remains valid.

Complaints

- 9a. TAG maintains a detailed record of all complaints received that relate to airport operations and activities. Details recorded include the name, address and contact phone number (if provided) of the complainant; and the nature of the complaint (for example noise, odour, track keeping, and altitude).

If in any single recorded complaint there are multiple aircraft movements reported, a record of each movement is kept within the database along with the total number of aircraft movements reported in the complaint. For statistical reporting purposes, when a single complaint contains multiple reports of aircraft movements, only the initial report will be used.

Records are also maintained of TAG's response to all complaints received both in terms of any necessary action to the operator of a reported flight; the return response to the complainant and the date on which it was issued. All historical records are kept on the TAG database in accordance with clause 9b of the Planning Agreement.

As Table 4 overleaf shows, there was a considerable increase in complaints received between June and October 2007. Whilst TAG has reported an increase in movements in 2007 when compared to 2006, this increase can also be attributed to the changes in flight tracks that occurred as a result of the Noise Abatement Trial (refer to section 2g); the seasonal circumstances and due to the widely publicised approach that has been implemented as a part of the Farnborough Airport Quiet Flying Program.

Table 4: Summary of complaints data collated in 2007

Month	Total Complaints	Complaints relating to ATC authorised non compliant flights**	Complaints relating to non compliant flights
January	14	0	0
February	12	0	0
March	27	0	1
April	43	5	1
May	33	0	0
June	111	20	0
July	202	40	0
August	271	79	4
September	184	28	7
October	104	20	1
November	38	10	1
December	35	5	0
Total	1075	207	15

** Due to proximity of other air traffic, aircraft may be authorised to operate outside of the Noise Abatement Procedures in order to ensure separation on grounds of safety. Such movements are identified as ATC authorised, non compliant flights.

- 9b. A total of twelve reports containing data relating to all complaints received (by telephone, letter and email) have been submitted to Rushmoor Borough Council over the course of 2007. All reports have been received within one week of the end of each month period as per clause 9b of the Planning Agreement.

Performance Monitoring of the Section 106 Agreement

- 10a. TAG hereby submits this report as a Performance Monitoring Report for consideration under the terms of clause 10a of the Planning Agreement.

Created by: Miles H Thomas, Environment Manager
Helena May, Environment Assistant

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Appendix A



Directorate of Airspace Policy
Environmental Research and Consultancy Department

Kathy Wood
Environment Manager
TAG Farnborough Airport Ltd
Farnborough Airport
Hampshire
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24 September 2004

Ref 4ER/3/35

Dear Kathy

Quality Assurance Checking of INM Input Data and Contours

Further to our revised work proposal of 7 September 2004, please find below the results of our checks on the inputs to your INM contours.

Results of verification tasks

Our checks have been based on your data CD entitled "INM 6.1 Noise Contours for CAA Review" – this contained files for 4 months, Sep-Dec 2003. The following tasks have been performed to verify the modelling process:

Verification of INM substitutions

We have looked through the list of Farnborough aircraft types and your proposed INM substitutions, the majority of which appear perfectly reasonable and valid. We do have the following comments to make on some types (excluding helicopters), which you may wish to consider:

Code	INM Code used by TAG Farnborough	Comment
B35	GASEPV	Use DHC6 (Beech 350 is twin-engined)
B350	GASEPV	Use DHC6 (Beech 350 is twin-engined)
CVLT	SN600	Use CVR580 (Convair CV-580)
T43	None	This could be an AT43 (ATR42-300)

Verification of flight tracks/traffic

You have employed individual flight tracks for both departures and arrivals based on radar data extracted from your B&K NTK system. We have already provided you with a program *farntac.exe* to 'clean up' the radar tracks and an Excel macro to enable you to view individual flight tracks.

The individual flight tracks have been checked by inspection and all appear to be correctly assigned to the appropriate runway, etc. We have noted also the small 'blip' on the outer

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contour for November 2003 and agree that an acceptable solution would be to manually smooth it in a GIS package once the contours have been exported.

Verification of flight profiles

We have checked that the flight profiles and stage lengths chosen are suitable for the aircraft that operate at Farnborough. As modelled, the vast majority of them are Stage Length 1; the remainder (mostly Boeing 737-800s and a few other types) have longer stage lengths assigned. For future runs, you may wish to investigate whether any aircraft engage in fuel 'tankering', which could mean that longer stage lengths may be more appropriate.

Verification of other input modelling assumptions

We have inspected your INM input files to make sure that all other modelling assumptions are appropriate. The 'Refinement' and 'Tolerance' values used in the INM Run Options appear reasonable. However, we note that inconsistent Low and High Cutoff values have been used for each month (i.e. Sep - 55/85, Oct - 50/75, Nov - 55/75, Dec - 50/70). We would recommend using consistent values across all months. As good practice, we would also recommend the use of a Low Cutoff value that is lower than the minimum contour value to be plotted (e.g. use a Low Cutoff value of 50 if plotting at 55 and above).

Verification of final contours

The final contours appear reasonable and in accordance with the modelling input data used.

As requested, we have also checked your predictive contours for Jan-Jun 2004 that were attached in Simon Greener's e-mail of 6 September 2004. These were derived by assuming a correction of $10\log_{1.2} = 0.79181$ dB to account for a 20% increase in traffic. Strictly speaking, this correction only holds true if there are no changes to the traffic mix and east-west runway usage between the periods considered. If there are no significant changes to the traffic mix/runway usage, we would consider this simple correction to be reasonable. However, any significant changes to the traffic mix (especially with respect to the noise dominant types at Farnborough) and runway usage would require re-modelling to ensure that the predicted contours are reliable.

Conclusions

Based on our checks of your INM input data for Sep-Dec 2003 and the contours produced, we are satisfied that the modelling process has been carried out appropriately. We have made some recommendations for your consideration, although in practice these are not expected to have any significant effects on the final contours.

We have also checked the predictive contours for Jan-Jun 2004. The 0.79 dB correction you have employed is appropriate if there are no significant changes to the traffic mix and runway usage.

Yours sincerely

Joseph Lee



Directorate of Airspace Policy
Environmental Research and Consultancy Department

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29 January 2007
Ref 4ER/3/35

Dear Kathy,

TAG Farnborough Airport Ltd: Modelling Check INM Input Methodology

Thank you for your letter dated 4th January regarding auditing of INM input data, following ERCD's full audit undertaken in 2004.

Your letter states that you have continued to obtain radar data to update the flight tracks used as an input to the noise calculation process for each set of contours produced since the audit. You have also continued to follow our audit recommendations, particularly regarding the INM grid calculation parameters (grid refinement and tolerance). You further indicate that you have adopted the latest version of the INM - Version 6.2. This brings INM a step closer to the latest international guidance, pending the release of INM 7.0. The move to INM 6.2 also provides new aircraft type data for a number of the dominant aircraft types at Farnborough and would have been a recommendation of any audit.

Based on your letter and our brief telephone discussions, I see no reason why a second full audit is necessary at this time.

I have been working closely with the FAA on future aircraft noise modelling guidance. This has been incorporated into the latest version of ANCON (v2.3) and will be implemented in INM 7.0. I would therefore recommend that you transition to version 7.0 as soon as it becomes available (current understanding is that it will be released in early 2007). In addition INM 7.0 should also provide additional data for new aircraft types.

The input process for INM 7.0 is essentially identical to earlier versions so my initial thoughts are that a full audit would not be required. However, I would like to reserve the right to reconsider this, pending final release of the software.

Yours sincerely

D. P. Rhodes

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Appendix B

Miles Thomas
Environment Manager
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13th February 2008

Our Ref: D1000663

Dear Mr Thomas

Farnborough Airport 2007 Annual Third Party Risk Audit Findings

Further to your recent request, I provide the findings of the Audit of Third Party Risk at Farnborough Airport in 2007, undertaken by ESR Technology. The context in which the audit has been undertaken is that, under the terms of the planning consent granted for civil aircraft operations at Farnborough Airport, specific conditions apply in respect of third party risk. Conditions 16 & 17 require that operations must maintain third party risk with defined limits, as characterised by the agreed 1 in 10,000 and 1 in 100,000 per annum individual risk contours, determined by use of an appropriate third party risk model. It is a further requirement that compliance with these conditions be demonstrated on an on-going basis.

Demonstration of compliance is achieved by monitoring of operations within a calendar year to gather operational data in respect of key parameters that determine the level of third party risk, as follows:

- the annual number of fixed wing aircraft movements;
- the weight of the aircraft that undertake those movements;
- the split of runway utilisation between Runway 06 and Runway 24 operations.

The risks for actual operations can then be determined and compared with those corresponding with the agreed contours. ESR Technology has determined the third party risk by using the NATS Third Party Risk Model, as previously employed to determine the agreed risk contours with which operations will apply. The third party risk was determined for operations in accordance with operational data supplied by TAG Farnborough Airport.

According to data gathered by TAG Farnborough Airport, the operations for 2007 are characterised as follows:

Movement numbers

26,507 movements in total.

25,101 fixed wing aircraft movements.

1,406 helicopter movements.

Runway utilisation

Runway 06 Departure: 10.4%
Runway 06 Arrival: 11.4%
Runway 24 Departure: 38.4%
Runway 24 Arrival: 37.3%
Other (Helicopters): 2.5%

Fixed-wing aircraft weight

Movement weighted average weight: 16.3 tonnes
Associated area destroyed in the event of aircraft crash: 0.197 hectares.

The primary parameters that determine the estimated level of risk are the number of movements and the aircraft weight. The annual number of movements in 2007 was lower than that assumed for the determination of the agreed contour (28,000 movements per annum). The average fixed-wing aircraft weight and associated area destroyed on the ground for 2007 operations are also lower than those assumed for the determination of the agreed contour (24.37 tonnes, 0.24 hectares). Since the level of risk at any location is directly proportional to both of these factors, on the basis of this operational data, it can readily be shown, without the need for risk calculation, that 2007 operations comply with the planning conditions.

Whereas, in principle, the estimated risk level may vary with a change in runway utilisation, this effect is found to be minor. The actual runway utilisation in 2007 is found not to be significantly different from that assumed in determining the agreed contours (15% Runway 06 Departure and Runway 06 Arrival and 35% Runway 24 Departure and Runway 24 Arrival).

The risk contours for operations for 2007 have been calculated and, as expected, are found to lie within the agreed risk contours. It is therefore confirmed that these operations comply with the planning conditions. The extents of these contours, as characterised in terms of the contour length from the runway end along the runway extended centreline, are as follows:

	1 in 10,000		1 in 100,000	
	NE	SW	NE	SW
Agreed Contour Length / m	1064	1383	3637	3408
Length for 2007 Operations: / m	805	1175	3475	3375

In summary, the operations for 2007, as characterised by the above operational data, have been assessed by means of the risk modelling approach described above, to determine the level of risk associated with them, and have been found to comply with the planning conditions. That is to say, the 1 in 10,000 and 1 in 100, 000 per annum risk contours on the North-East and South-West ends of the runway, determined for 2007 operations, are found to lie within the agreed risk contours.

Yours sincerely



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