New style, old story

A review of UK Airport Noise Action Plans

"We took the old plan, folded it in half, and now it's the new plan."

A report by the Aviation Environment Federation
for AirportWatch

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The Aviation Environment Federation (AEF) is the principal UK non-profit making environmental association concerned with the environmental effects of aviation. It promotes a sustainable future for aviation which fully recognises, and takes account of, all its environmental and amenity effects. These range from aircraft noise issues associated with small airstrips or helipads to the contribution of airline emissions to climate change.

AirportWatch is an umbrella movement uniting the national environmental organisations, the airport community groups, and individuals opposed to unsustainable aviation expansion and its damaging environmental effects.

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Executive Summary

Environmental noise is a problem in many EU states, and can result in annoyance, sleep disturbance and health problems. EU Directive 2002/49/EC relating to the assessment and management of environmental noise (the Environmental Noise Directive or END) aims to tackle this problem. It defines an approach to avoid, prevent or reduce the harmful effects of environmental noise throughout the EU: the drawing up of noise maps, and the adoption of noise action plans based upon the noise mapping results. The noise action plans, the Directive states, should be designed with a view to preventing and reducing environmental noise where necessary.

AEF has carried out a review of the 22 UK airport noise action plans (NAPs) to establish how these plans contribute to the aims of END and how well they adhere to the requirements of the Directive. The outcomes of the plans were assessed using the forecast impact on the noise contours defined in END (55dBLden and 50dBLnight) compared with the base year of 2006 as defined by UK regulations.

None of the 19 airports in England and Northern Ireland base their NAPs on the 2006 baseline, and none offer outcomes based on the END noise contours. Only five airports offer forecasts or limits expressed in noise contours and these all exceed the 2006 baseline noise levels. All 19 airport NAPs produced in England and Northern Ireland allow, or actively plan, increases in aircraft noise (Section 4).

Three Scottish airports each make a commitment that, in the five years of the noise action plan (2008-13), the 57dBLAeq(16hr) contour area will not exceed the 2006 area. The 57dBLAeq(16hr) differs from the Lden and Lnight contours specified by the Directive, and is thus not related to the noise maps. The choice by the Scottish airports of the 57db daytime noise contour fails to take account of the impact of night and evening noise, and thus fails to achieve the objectives of the Directive.

There is evidence that the minimum requirements of the Environmental Noise Directive are not fully met by the airport noise action plans (Section 5).

Our analysis suggests that while the Scottish airports have taken steps towards meeting the objectives of END, the English and Northern Ireland airports have collectively failed to accept the spirit of the Directive, and have in fact subverted its aims and objectives. Even the Scottish airports rely on the use of a 57 dBLAeq contour rather than the 55 Lden and 50 Lnight contours specified by the Directive.

We consider that the noise action plans produced by English airports do not meet the requirements of the Environmental Noise Regulations (England) regulation 15.1)(a). We recommend that the Secretary of State should exercise his duty under regulation 24 to reject these action plans.

1 Background

EU Directive 2002/49/EC[1] is concerned with the management of environmental noise across European Member States.

It applies to roads, railways, airports and agglomerations, requiring that for these noise sources noise maps be produced, public information be provided, and noise action plans be adopted.

The Directive is implemented in UK law by Statutory Instrument 2006 No2238 Environmental Noise (England) Regulations 2006[2], and corresponding instruments applying in Scotland[3], Wales[4] and Northern Ireland[5]. The production of airport NAPs is supported by 'Guidance for Airport Operators to produce airport noise action plans'[6] produced by DEFRA and offering interpretation of the Directive's general aims for UK airports. This review considers all the noise action plans so far produced by UK airports.

2 UK Airport Noise Action Plans

It is not straightforward to assess whether those airports required by the Directive and the Regulations to produce a noise action plan have done so.

The EU Directive applies to airports with more than 50,000 aircraft movements in 2006 excluding those movements purely for training purposes on light aircraft, and to airports causing 55Lden or 50Lnight in an agglomeration. END does not define 'light aircraft' and the UK CAA does not publish any statistics of training flights by light aircraft, so there is some difficulty in assessing the first criterion.

28 airports in the UK each had more than 50,000 aircraft movements in 2006 (Table 1), 22 of these in England. The *Environmental Noise (Identification of Noise Sources) (England) Regulations 2007 as amended* identify 15 English airports (Table 1 Column 3), omitting seven airports with more than 50,000 movements in 2006 (Biggin Hill, Coventry, Durham, Exeter, Gloucestershire, Norwich and Shoreham). We assume that exclusion of flights for training on light aircraft at these airports brings their movements below the 50,000 threshold, but we have no means of verifying this.

The 15 identified airports have produced noise maps and action plans. Coventry produced noise maps, but has since ceased aviation operations and has not produced a NAP.

Shoreham and Southend airports fall under the second criterion, as stated by their noise action plans, namely noise in an agglomeration (Table 1), and have produced noise maps and action plans.

[1] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0049:EN:NOT
[2] http://www.opsi.gov.uk/SI/si2006/uksi_20062238_en.pdf
[3] http://www.opsi.gov.uk/legislation/scotland/ssi2006/20060465.htm
[4] http://www.opsi.gov.uk/legislation/wales/wsi2006/20062629e.htm
[5] http://www.opsi.gov.uk/sr/sr2006/20060387.htm
[6] http://www.defra.gov.uk/environment/quality/noise/documents/airport-operators.pdf

Three Scottish airports (Aberdeen, Edinburgh and Glasgow) and two Northern Ireland airports (Belfast International and Belfast City) have produced NAPs, the latter because of the impact on the agglomeration of Belfast. There appear to be no environmental noise regulations covering the Channel Islands, and Jersey and Guernsey, while having more than 50,000 movements, have not produced NAPs.

Thus a total of 22 airports in UK have produced noise action plans and are included in this review.

Column 1	Col 2	Col 3	Col 4	Col 5
Airport	Movements	Identification of Noise Sources Regs (England)	Noise Maps Defra Website	Noise Action Plan
HEATHROW	477,048	Y	Y	Y
GATWICK	263,363	Y	Y	Y
MANCHESTER	229,729	Y	Y	Y
STANSTED	206,693	Y	Y	Y
EDINBURGH	126,914			Y
BIRMINGHAM	119,490	Y	Y	Y
ABERDEEN	116,971			Y
LUTON	116,131	Y	Y	Y
GLASGOW	110,034			Y
LIVERPOOL	91,263	Y	Y	Y
EAST MIDLANDS INT'L	88,592	Y	Y	Y
BRISTOL	84,583	Y	Y	Y
GLOUCESTERSHIRE	83,453	N		
NEWCASTLE	81,655	Y	Y	Y
LONDON CITY	79,436	Y	Y	Y
BELFAST INTERNATIONAL	77,652	Y		Y
BOURNEMOUTH	75,505	Y	Y	Y
JERSEY	69,508			
SHOREHAM	69,142	N	Y	Y
LEEDS BRADFORD	66,921	Y	Y	Y
BLACKPOOL	65,990	Y	Y	Y
BIGGIN HILL	65,180	N		
COVENTRY	61,784	N	Y	
DURHAM TEES VALLEY	55,788	N		
SOUTHAMPTON	55,786	Y	Y	Y
GUERNSEY	54,400			
NORWICH	52,735	N		
EXETER	52,005	N		
BELFAST CITY	39,411			Y
SOUTHEND	38,858		Y	Y

Table 1 – Airports producing Noise Maps and Noise Action Plans
Column 2 – Total aircraft Movements – Source CAA Airport Statistics 2006 Annual [7]
Column 3 – Airports in the Environmental Noise (Identification of Noise Sources) (England) Regulations 2007[8] as amended[9]
Column 4 – Airports producing noise maps appearing on the Defra Airport Noise Mapping website[10]

[7] http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fld=2006Annual
8 http://www.opsi.gov.uk/si/si2007/uksi_20070415_en_1
9 http://www.england-legislation.hmso.gov.uk/si/si2007/pdf/uksi_20072458_en.pdf

3 Review of UK Airport Noise Action Plans

The Aviation Environment Federation has undertaken a review of all airport noise action plans produced in the UK to assess:

1. How effectively do Airport Noise Action Plans achieve the *aims* of EU Directive 2002/49/EC?
2. Do Airport Action Plans adhere to the *requirements* of Directive 2002/49/EC?

The review is concerned primarily with the outcomes of the NAPs, and does not attempt a detailed technical review of the measures at any particular airport. The research questions above are expanded into a series of specific questions to support an objective analysis.

4 Achievement of aims of EU Directive

The overall aim of the EU Directive 2002/49/EC is 'to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise'.

The directive further specifies 'adoption of action plans by the Member States, based upon noise-mapping results, with a view to preventing and reducing environmental noise where necessary…' (art.1 (1))

In this review, the effectiveness of airport noise action plans in achieving these aims is measured by the impact of the NAP on the size of (i) the population exposed to the noise contours specified in the Directive (55dBLden and 50dBLnight), or (ii) the area within these contours, compared with the baseline year of 2006. An outline of our methodology (the questions we used to assess these criteria) is included at Appendix 1.

4.1 Scottish airports

Three Scottish airports (Aberdeen, Edinburgh and Glasgow) each commit that, in the five years of the noise action plan (2008-13) the area within the 57dBLaeq contour line as determined by the CAA will not exceed the area at 2006. The 2006 baseline is defined for each airport by area and population exposed. Commitments are voluntary and it is not clear how they will be enforced.

None of the three Scottish NAPs specify the timebase of the 57dBLaeq contour determined by CAA. Other sources (Edinburgh Airport Noise Insulation Scheme Public Consultation December 2009[11], Glasgow Airport Noise Consultation November 2009[12]) make it clear that the CAA contours for the Scottish airports cover the 16hour daytime period.

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[10] http://www.defra.gov.uk/environment/quality/noise/mapping/transportation/aviation/index.htm

[11] http://www.edinburghairport.com/assets/Internet/Edinburgh/Edinburgh%20downloads/Static_files/EDI_noise_insulation_consultation_booklet.pdf

[12] http://www.glasgowairport.com/assets/Internet/Glasgow/Glasgow%20downloads/Static_files/GLA_Noise_Insulation_Scheme_Consultation.pdf

While this commitment not to increase daytime noise is welcome, it does not satisfy the requirements of the END. The 57dBLAeq(16hr) differs from the Lden and Lnight contours specified by END, and thus fails to meet the requirement that noise action plans be based on the results of the noise mapping process. The choice by the Scottish airports of the 57db daytime noise contour fails to take appropriate account of the impact of night and evening noise, and thus fails to achieve the objectives of the Directive.

4.2 English Airports

17 English airports have produced draft noise action plans. None of these relate the outcome of the plans to the EU Directive contours (55dBLden and 50dBLnight). None relate the outcome of the plans to the 2006 baseline either for day or night noise. The NAPs describe varying management strategies for day and night noise.

4.3 English Airports Day Noise

Heathrow is the only English airport to offer a contour limit for daytime noise. This is a voluntary limit if Heathrow remains a 2 runway airport, and has been adopted by Government as a mandatory condition if Runway3 is built. The limit is that the 57dBLAeq (16hr) contour will not exceed 127km^2. The 2006 area of this contour was 117.4km^2, so the limit represents an 8.2% increase in day noise.

All other airports fail to give any forecast of daytime noise. Traffic growth projections derived from the NAPs and airport Master Plans indicate that day noise is expected to grow at all airports. The published noise action plans do not make this clear; nor do they implement actions to limit this growth.

4.4 English Airports Night Noise

Blackpool, London City, Shoreham and Southampton airports operate a night curfew. Noise action plans for these airports do not indicate any change to the night curfew, and suggest that night noise will not increase.

Manchester Airports Group adopts a policy of limiting future night noise to previous years with historic high noise levels. Thus Manchester selects 2001 as a base, chooses the 60dBLAeq(8hr) contour, and makes a commitment that the area of this contour will remain lower than the 2001 area (approximately 7.8km^2). The 2006 area was approximately 7.1 km^2. The quota count limit at Manchester, applied via the section106 agreement, is currently underutilised, and allows more night flights. Thus the Manchester NAP allows an increase in the 50dBLnight contour relative to the baseline year of 2006.

East Midlands selects 1996 as a base, uses the 57dBLAeq(8hr) and makes a commitment that the area of this contour will not exceed the 1996 area (14.6km^2). The 2006 contour area (not stated in the NAP) was 7.9km^2, so the NAP allows an 84% increase in the selected contour area (and thus the 50dBLnight contour) compared with 2006. This increase in night noise is actively planned for by East Midlands in the Master Plan and reflected, though obscured, in the NAP.

The designated airports (Heathrow, Gatwick and Stansted) are directed by Government to apply a night noise limit based on the 48dB(A)Leq(6.5 hr) contour. This contour is limited to 55, 47 and 37 km^2 in 2011/12 respectively. These airports do not quote the area of the contour at the 2006 baseline nor is there any commitment on noise levels in the remaining 1.5 hours of the 8 hour night period. It is therefore not possible to relate outcome of the NAPs to the 50dBLnight contour nor the 2006 baseline. However, traffic growth forecasts and lack of controls for the whole 8 hour night would suggest that some increase in 50dBLnight contour area is possible.

None of the remaining eight English airports publishing NAPS make night noise forecasts or impose night noise limits in terms of noise contour area. Five regional airports (Birmingham, Bournemouth, Bristol, Liverpool, and Manchester) have quota count limits but only Bournemouth covers the whole 8 hour night – others apply for only 6.5 hours. The QC limits all allow some growth and at least Bournemouth and Liverpool have limits much higher than current night activities.

In summary, the NAPs of all English airports, except the four noted above with night curfews, allow some growth of night noise, an increase in the 50dBLnight contour area and thus an increase in population exposed to night noise. East Midlands Airport positively plans a large increase in night noise.

4.5 Northern Ireland

Belfast International and Belfast City NAPs make no forecast of noise levels day or night in terms of the area of any noise contours, so it is not possible to relate the NAP outcomes to 55dBLden and 50dBLnight. Forecasts of traffic growth and lack of positive controls would suggest an increase in day noise at both airports and night noise at Belfast International. Belfast City operates a night curfew and thus night noise may not increase to any significant degree.

4.6 Noise Control Schemes

The Civil Aviation Act 2006 gives airports powers to set up noise control schemes. None of the airports producing noise action plans have implemented a noise control scheme under this statute.

5 Adherence to EU Directive

The review assessed adherence to the EU Directive by analysing whether the minimum elements of an action plan (Annex 5 of the Directive and section 2.15 Box 2 of the defra Guidance) are actually present in the plan. For those elements relating directly to noise, the review analysed how closely the measure adheres to the Directive and to Defra guidelines, and how it contributes to the aims of the Directive. The minimum elements of an action plan and the derivation of review questions are shown at Appendix 1.

The results below refer to a total of 21 NAPs produced by airports in the UK.

5.1 Descriptive and Administrative Elements

The Competent Authority is defined by Government regulation as the appropriate airport authority. The elements covering Airport Description, Legal Context and arrangements for Public Consultation are included in all 22 NAPs. Financial information is included in 15 NAPs.

5.2 Summary of Noise Mapping and Population Exposure

All NAPs contain a summary of noise map results. However Defra guidelines also require that the contour *areas* be published; only 9 NAPs include contour areas. All NAPs include population exposure. Three airports (Edinburgh, Glasgow and Southampton) do not publish populations within the 50dBLnight contour, but instead use the 55dBLnight for assessing population exposure. East Midlands airport publishes the population within 50dBLnight contour, but uses 57dBLAeq(8hr) to assess the exposed population.

5.3 Noise Related Elements

There is great variation in the inclusion and interpretation of noise related elements in the NAPs.

Limit Values. A statement of any limit values in place or planned is a required minimum element. A 'limit value' is specifically defined as an enforceable limit. Only 10 NAPs include a clear section to identify limit values. Several airports which do actually have enforceable limit values e.g. Stansted, Birmingham, Manchester, do not clearly and specifically identify them. There is some evidence of 'over claiming' limit values. East Midlands Airport, for example, claims 6 limit values, none of which are enforceable limits within the definition of the Directive and Defra Guidelines.

Noise Problems. The Directive asks for identification of noise problems. 12 NAPs fail to include any discussion of the effect of noise and consequent problems. Only 10 NAPs discuss noise as a problem, mostly in terms of the areas of population affected.

Existing Measures / **Five year Plan**. Most NAPs include these elements, but they are frequently combined. It is thus very difficult to separate existing and any new measures. Several airports (such as Gatwick, Luton, Southampton and Stansted) identify new measures to be introduced in the 5 year plan. It may be that other airports do propose new noise measures, but their presentation is sufficiently obscure for this to be unclear. Several airports specifically state that no new measures will be introduced.

The plans generally consist of 'soft measures', such as monitoring, investigating, reviewing, and engaging with, and include few hard actions. Actions tend to be presented as internal targets, such as a percentage of continuous descent approaches or a percentage of Chapter 4 aircraft, rather than focussing on external noise impacts.

Long Term Strategy. Only 8 NAPs include a specific section on long term strategy, generally simply a repeat of the Master Plan growth scenario, without a long term *noise* strategy. Only one (Blackpool) makes reference to a long term noise strategy, and then simply to suggest that no existing dwellings will be subjected to a 'high level of noise' (defined elsewhere as 69dBLAeq(16hr).

The proposals at Manchester, East Midlands, and Bournemouth to allow night noise to grow, do extend beyond the 5 year plan, and may therefore be regarded as long term noise strategies, though not presented as such.

The long term noise strategies at other airports are, at best, somewhat vague and unquantified. For instance the Scottish airports all suggest 'a long-term goal to be in the top fifth of companies for best practice in international airport noise management on comparable sites'. Birmingham suggests an overriding objective 'To work with our local community and industry partners to adopt the best practicable means to assess, manage and where possible, minimise the impact of aircraft noise, both now and in the future'. Such sentiments may be laudable but fall far short of any verifiable long term noise strategy.

Evaluation. The Directive calls for the NAP to include provisions for evaluating the results of the plan. 19 NAPs include such a section; only Luton, Newcastle and Shoreham do not cover this specifically. The Defra Guidelines suggest that the NAP should include estimates of the expected outcome of any proposed measures in terms of reduced numbers of people affected. Belfast City admits that the measures in the NAP will not reduce the number of people affected by aircraft noise. No other NAPs contain such estimates. It may reasonably be assumed that there are no measures which in fact reduce the numbers of people affected.

6 Conclusions and Recommendations

Our analysis of UK airport noise action plans shows numerous examples of plans which do not meet the minimum requirements laid down in Annex V of the EU Directive (section 6 above). We would recommend that airports be required to correct these lapses from the Directive's minimum requirements.

Of particular note is the fact that not a single NAP satisfies the requirement that the plan be based on the results of noise mapping, as none specify performance indicators based on Lden and Lnight metrics. Many refer to other measures, such as the 57 dBLAeq (16 hour) contour, historically considered in UK policy to represent the onset of significant annoyance from aircraft noise, based on the 1985 ANIS study. The EU's specified noise contours are, meanwhile, more closely in line with the WHO Community Guidelines on Noise, published in 1999, which state that
'During the daytime, few people are seriously annoyed by activities with LAeq levels below 55 dB; or moderately annoyed with LAeq levels below 50 dB. Sound pressure levels during the evening and night should be 5–10 dB lower than during the day.' More recent work by WHO Europe suggests that the night-time threshold should in fact be more stringent, and recommends that to avoid adverse health consequences the annual average night noise exposure should not exceed 40 dB. In future, the EU Directive's use of 55 Lden and 50 Lnight contours may need to be reviewed to take account of this new evidence. In the meantime it is essential that UK airports' noise action plans define their goals and their performance indicators in terms of the EU's required metrics.

Overall, we are concerned about the failure of airport noise action plans to prevent noise increases. The Environmental Noise Regulations (England) 2006, specify at regulation 15(1)(a), that noise plans meet the objectives of Article 1(c) of the Directive, which in turn requires adoption of action plans 'with a view to preventing and reducing environmental noise where necessary'.

While no definition is provided as to when noise reductions are 'necessary', there is considerable evidence to suggest that noise annoyance is increasing (such as the 2007 UK Government study into *Attitudes to Noise from Aviation Sources in England,* and the EC's review of the effectiveness of EC Directive 2002/30) and that aircraft noise has significant health impacts (such as the work on night noise by WHO and WHO-Europe, and the HYENA study on Hypertension and Exposure to Noise near Airports). We consider that action plans that fail to prevent an increase in noise (see section 5), or actually plan noise increases, fail to meet the aim of the Regulations.

Our analysis suggests that none of the noise action plans meet the requirements of the Environmental Noise Regulations (England) 2006, and we therefore recommend that the Secretary of State exercise his duty under regulation 24 to reject the noise action plans produced by English airports.

Appendix 1 – Derivation of Review Questions

A1.1 Aims of EU Directive 2002/49/EC.

The aim of the noise mapping and subsequent drawing up of action plans is defined by Article 1 of EU Directive 2002/49/EC as follows:

1. The aim of this Directive shall be to define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. To that end the following actions shall be implemented progressively:

(a) the determination of exposure to environmental noise, through noise mapping, by methods of assessment common to the Member States;

(b) ensuring that information on environmental noise and its effects is made available to the public;

(c) adoption of action plans by the Member States, based upon noise-mapping results, with a view to preventing and reducing environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and to preserving environmental noise quality where it is good.

The DEFRA Guidance states:
The drawing up of action plans for airports supports the Government's aim – as set out in The Future of Air Transport White Paper (2003) (ATWP) – to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise. In line with these commitments the Government has strengthened and clarified powers to control aircraft noise and emissions. In particular airport operators have been given statutory powers to introduce noise control schemes, and fine aircraft operators for any of their departures that breach noise controls.

The overall objectives of the Directive and the DEFRA guidelines are similar, and may be addressed by how the noise plans affect the numbers of people significantly affected by aircraft noise. Thresholds for significant effect are implied by the EU Directive as 55dBLden and 50dBLnight. The baseline of the noise plans is defined as the strategic noise maps, produced in the UK for 2006 noise levels.

DEFRA Guidelines state that NAPs should show expected outcomes of the plans by estimating the reduction in the number of people affected by aircraft noise.

Thus, from data in the published NAP, the review analyses the outcome in terms of population exposed to 55dBLden and 50dBLnight or the area within these contours compared with the 2006 baseline. Where the airport chooses an alternative contour the questions identify the contour selected, the basis for this selection, and the areas in 2006 and at the end of the plan. An overall assessment is made of the potential change to the EU Directive's contours compared with 2006 baseline. Questions are included below as Q12.1-Q12.13.

The ATWP has a subsidiary objective to 'bear down on night noise'. This is assessed by analysis of the effect of the NAP on 50dBLnight.

The DEFRA Guidelines suggest a subsidiary objective for airports to introduce noise control schemes, under statutory powers granted by the Civil Aviation Act 2006. The relevant question is included at Q9.3 below, in the analysis of the actions proposed for the next 5 years.

A1.2 Adherence to the requirements of Directive 2002/49/EC

EU Directive 2002/49/EC specifies the minimum requirements of an action plan as follows:

An action plan must at least include the following elements:

1. a description of the agglomeration, the major roads, the major railways or major airports and other noise sources taken into account,
2. the authority responsible,
3. the legal context,
4. any limit values in place in accordance with Article 5,
5. a summary of the results of the noise mapping,
6. an evaluation of the estimated number of people exposed to noise, identification of problems and situations that need to be improved,
7. a record of the public consultations organised in accordance with Article 8(7),
8. any noise-reduction measures already in force and any projects in preparation,
9. actions which the competent authorities intend to take in the next five years, including any measures to preserve quiet areas,
10. long-term strategy,
11. financial information (if available): budgets, cost-effectiveness assessment, cost-benefit assessment,
12. provisions envisaged for evaluating the implementation and the results of the action plan.

This review ascertains whether each of the above elements is actually present or absent from the Noise Action Plan (Questions E1-E12). Those elements which document some aspect of noise reduction (or increase), and may thus positively (or negatively) contribute to the Directive's aim, are measured in terms of their contribution (Q4-Q10 + Q12 above). This review does not undertake a detailed technical analysis of the various noise control measures suggested or omitted from the NAP; it is assumed that such analysis is included in detailed consultation responses at a local level. Questions and potential answers are detailed below.

Questions - Inclusion of Element in Noise Action Plan

Element	Question	Response
1 Description of airport	E1 Is this element included in NAP?	Y/N
2 Responsible authority	E2 Is this element included in NAP?	Y/N
3 The legal context	E3 Is this element included in NAP?	Y/N
4 Limit values	E4 Is this element included in NAP?	Y/N
5 Results of noise mapping	E5 Is this element included in NAP?	Y/N
6 Population exposed	E6.1 Is this element included in NAP?	Y/N
6 Identification of problems	E6.2 Is this element included in NAP?	Y/N
7 Public consultation	E7 Is this element included in NAP?	Y/N
8 Measures in force	E8 Is this element included in NAP?	Y/N
9 Actions in next five years	E9 Is this element included in NAP?	Y/N
10 Long term strategy	E10 Is this element included in NAP?	Y/N
11 Financial information	E11 Is this element included in NAP?	Y/N
12 Outcomes	E12 Is this element included in NAP?	Y/N

Questions - Efficacy of Content

Element	Comment	Question	Response
1-3 Descriptive and administrative issues	(See section 5.1 above)	N/A	
4 Limit values	Claimed 'limit values' may not meet the EU Directive/DEFRA definition of limit value	Q4.1 What is total number of limit values the airport claims to enforce?	Number
		Q4.2 How many claimed limit values meet the Directive's definition?	Number
5 Noise Map results	May be expressed in area and/or population	Q5.1 Does the NAP include contour areas?	Y/N
6 Population exposed	Population exposed to noise should be assessed against threshold levels specified in EU Directive	Q6.1 Is the 55dBLden contour used to estimate population exposed?	Y/N
		Q6.2 Is the 50dBLnight contour used to estimate population exposed?	Y/N – if No then -Contour level used
6 Identification of noise problems	An assessment of whether the NAP discusses aircraft noise problems and whether noise problems are acknowledged or denied.	Q6.3 Does the NAP discuss aircraft noise problems?	Y/N
		Q6.4 Does the NAP acknowledge aircraft noise problems?	Y/N
		Q6.5 How many noise problems are identified?	Number
7 Public consultation	Assess whether the consultation document is suitable for Public Consultation.	(The consultation process has not been assessed in this review.)	
9 Actions in next five years		Q9.1 Does the NAP define a 5 year plan?	Y/N
		Q9.2 How many new actions are proposed in the NAP Five year Plan?	Number of actions
		Q9.3 Does the NAP include a Noise Control Scheme under powers granted in the Civil Aviation Act 2006?	Y/N
10 Long term strategy	Within a Noise Action Plan, the long term strategy must include a Noise Strategy, beyond the 5 year plan (element 9). An assessment is	Q10.1 Does this element include a Long Term Noise Strategy?	Y/N
		Q10.2 Does the noise strategy extend beyond the 5 year action plan?	Y/N

	required of the impact of the stated strategy (or lack of strategy) on day noise and night noise.	Q10.3 What effect will the stated strategy have on population within 55dBLden contour?	Increase/ decrease
		Q10.4 What effect will the stated strategy have on population within 50dBLnight contour?	Increase/ decrease
12 Outcomes	The outcomes of the NAP should be quantified in terms of population or area of the 55dBLden and 50dBLnight contours.	Q12.1 Does the NAP quantify the population within the 55dBLden contour at the end of the plan?	Y/N/value
		Q12.2 Does the NAP estimate the area of the 55dBLden contour at the end of the plan?	Y/N/value
		Q12.3 Does the NAP quantify the population within the 50dBLnight contour at the end of the plan?	Y/N/value
		Q12.4 Does the NAP estimate the area of the 50dBLnight contour at the end of the plan?	Y/N/value
	Where an alternative contour is used the justification for using this contour, and its area in 2006 and at end of plan should be stated.	Q12.5 Does the NAP estimate the area of other contour(s) at the end of the plan?	Y/N
		Q12.6 If so what contour(s)	Contour and Value
		Q12.7 What is the basis for choosing this contour?	Text
		Q12.8 Contour area at 2006?	Value
		Q12.9 Contour area at end of plan?	Value
	Where the NAP does not quantify these, an assessment is made	Q12.10 What is the assessed effect on 50dBLnight contour?	Increase/ decrease/ unclear
		Q12.11 What is the reason for this assessment?	Text
		Q12.12 What is the assessed effect on 50dBLnight contour?	Increase/ decrease/ unclear
		Q12.13 What is the reason for this assessment?	Text