

Discussion Paper 05 Aviation Noise

M.A.G's submission to the Airports Commission

September 2013

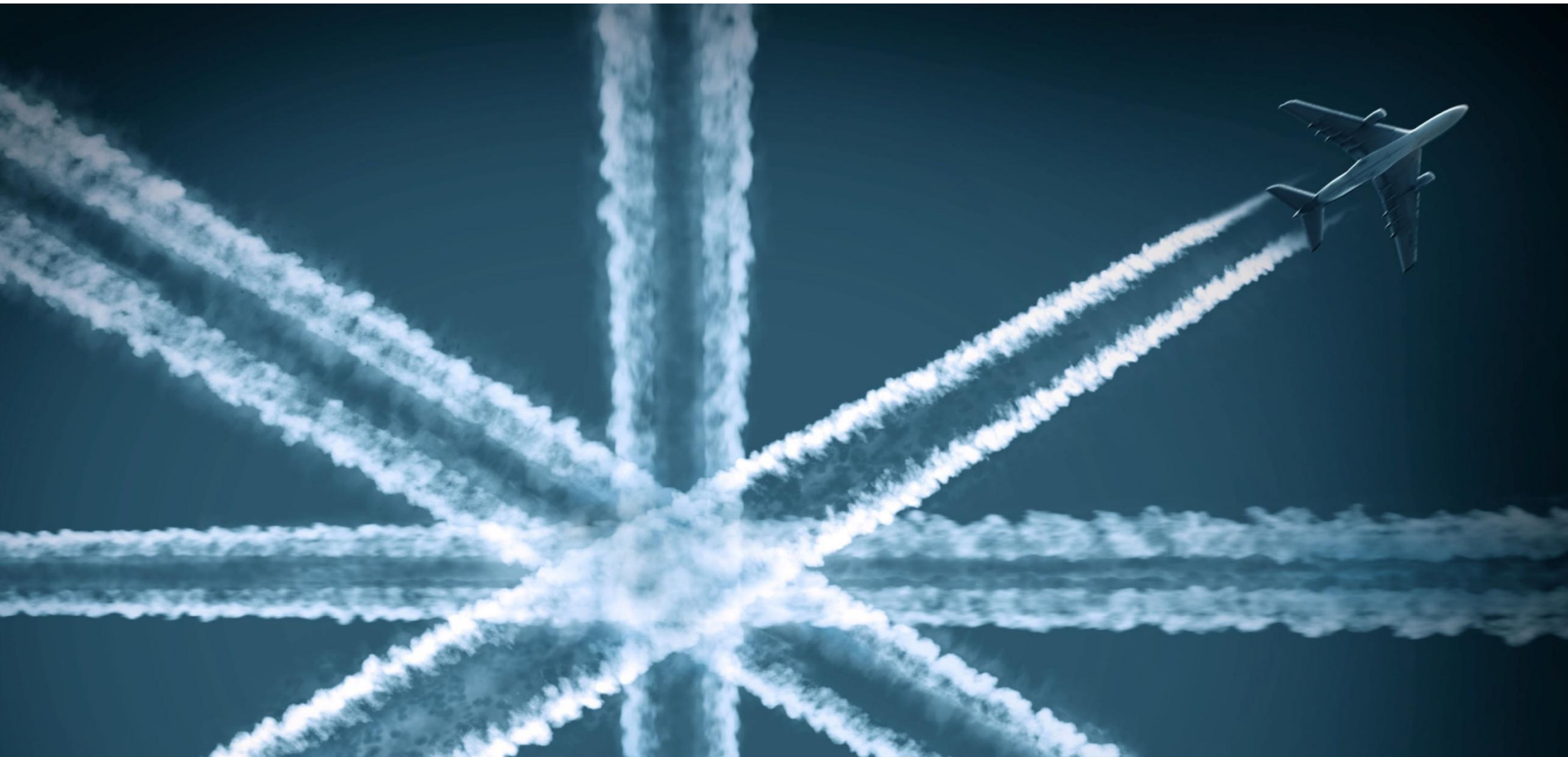


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1 Introduction

About M.A.G

- 1.1. The Manchester Airports Group (M.A.G) owns and operates four airports in the UK (Manchester, London Stansted, East Midlands). In total M.A.G airports handle 42 million passengers per annum (mppa).
- 1.2. This document is M.A.G's submission to the Airports Commission in response to Discussion Paper 05, which considers aviation noise.

Aviation Noise

- 1.3. M.A.G recognises that aircraft noise can be intrusive and that the effects of noise are felt most acutely by those communities living and working in close proximity to airports, where aircraft operate at lower altitudes and noise levels are typically higher. M.A.G agrees that noise impact is one of the central considerations for the Commission and therefore it is imperative that the Commission's deliberations are informed by objective evidence based criteria that are founded on sound science.
- 1.4. In response to previous requests, the Commission has received wide-ranging proposals that seek to make best use of available airports capacity and also suggestions for providing substantial additional capacity in the longer term. As the Commission's work develops it will be necessary to compare and contrast these proposals and with particular regard to aircraft noise M.A.G believes there is clear benefit if those options which are selected for further consideration submit evidence using standardised noise metrics in accordance with the requirements of the Commission. This will allow the Commission and other stakeholders to make direct 'like for like' comparison.
- 1.5. M.A.G notes and would give qualified support to the Commission's view that there is still no firm consensus on how to approach issues around aircraft noise. There is though a substantial body of work in this area and a number of regulatory and policy regimes that should inform the Commission's deliberations. In particular M.A.G would wish to highlight the 'balanced approach' developed by the International Civil Aviation Organisation (ICAO), which is implemented in the UK by Regulation ^[ref 1] and the noise metrics and

action planning process established by the Environmental Noise Directive ^[ref 2]. Whilst it no longer has formal status, M.A.G also believes there is merit in taking account of the information contained in former Planning Policy Guidance Note PPG24, as the assessment methodology established by this guidance has already been used extensively at public inquiry and has previously allowed detailed consideration of the impacts of aircraft noise.

M.A.G's Approach to Managing Aircraft Noise

- 1.6. M.A.G takes its responsibility for managing aircraft noise extremely seriously and well established management regimes are in place at all M.A.G airports. These regimes, which are formalised in statutory Noise Action Plans, include an objective assessment of noise impact and wide-ranging mitigation measures that best fit the local circumstances of each airport within the Group.
- 1.7. Working collaboratively with our partners, including airlines, is central to our approach to managing noise. The noise mitigation measures that we have implemented have been subject to substantial public consultation and are regularly reviewed with our local communities.
- 1.8. The effectiveness of noise controls is widely reported and considered with formal and informal consultative bodies including local communities both directly and indirectly via elected members. M.A.G believes that an on-going and responsive dialogue is central to the successful management of noise.
- 1.9. A dialogue allows airports to set out the issues that underpin the management of noise, including the practical limitations that constrain action and allows those impacted by noise to explain how noise impacts them and which aspects should be given greatest consideration.
- 1.10. The approach adopted by M.A.G has shown both objective and subjective benefits and as shown in Tables 1 and 2. It is particularly notable that noise complaints at M.A.G airports have reduced dramatically in recent years.

Table 1: Noise Footprints M.A.G airports

	2006 contour (sq. km)	2011 contour (sq. km)	Change
Manchester	33.7	26.1	-23%
Stansted	28.2	19.4	-31%
East Midlands	8	7.2	-10%

[Based on annual 57 dB_{L_AEQ,16h} noise contour, as per DEFRA NAP datapack]

Table 2: Noise Complaints M.A.G airports

	2006 noise contour	2011 noise contour	Change (%)
Manchester	2,039	838	-59%
Stansted	13,956	881	-94%
East Midlands	7,978	600	-92%

2 Response to Consultation Questions

What metrics or assessment methods would an appropriate 'scorecard' be based on?

- 2.1. Analysis of existing infrastructure has shown that there is considerable spare rail capacity at the airport and only a localised highway capacity constraint. In the context of planned enhancements, considerable expansion of the airport operations would be possible before existing surface access infrastructure required significant upgrading.
- 2.2. As noted in our introduction, the mitigation policies at M.A.G airports are formalised in published noise action plans. The preparation of noise action plans is informed by an objective assessment of aircraft noise. This assessment considers the full suite of noise contours required by the Environmental Noise Directive [Ref 2], viz. L_{day} , $L_{evening}$, $L_{AEQ,16h}$, L_{night} and L_{den} . This approach is consistent with the guidance from defra [ref 3] and is common to all major airports within Europe. M.A.G believes that this suite of noise contours is an appropriate basis for the Commission's work. Making use of these metrics has a number of important advantages including:
- This suite of contours is the preferred method of noise assessment across the European Union and has been adopted by the UK Government;
 - This suite of noise contours has been used for recent public consultation at all major UK airports. There is therefore a higher degree of familiarity and understanding of this metric amongst all stakeholders. Conversely the use of different noise metrics raises the prospect of confusing some stakeholders and potentially undermining the statutory process;
 - The consideration of all parts of the day enables noise at night to be properly considered and accorded appropriate weight;
 - The use of L_{den} enables a simple and direct 'like for like' comparison between different proposals, with other airports across Europe and also other major noise sources including roads and railways;
 - Any decisions taken by the Commission which were informed by a consideration of these widely adopted metrics would be likely to withstand legal challenge; and

- Noise contours provide a simple communication tool and allow noise impact to be shown geographically. As such they can usefully inform public consultation and debate.
- 2.3. In considering the degree of impact associated with different noise contours M.A.G considers that particular weight should be accorded to:
- Daytime - an $L_{AEQ,16h}$ value of 57 dB(A). The daytime value of 57 dB $_{LAEQ,16h}$ reflects recently published Government policy, which notes that *'We will continue to treat the 57dB LAeq 16 hour contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance'*.
 - Night - an L_{night} value of 55 dB(A). The night-time value of 55 dB $_{LAEQ,8h}$ is consistent with work undertaken by the World Health Organisation [Ref 4] which recommends an interim night noise target of 55 dB(A).

To what extent is it appropriate to use multiple metrics, and would there be any issues of contradiction if this were to occur?

- 2.4. As the Commission's work develops it will clearly be necessary to compare and contrast the disparate proposals on an objective 'like for like' basis. M.A.G believes therefore that there will be clear benefit from the use of common standardised noise metrics. The use of the full suite of noise metrics included in the Environmental Noise Directive ^[Ref 2], viz. L_{day} , $L_{evening}$, $L_{AEQ,16h}$, L_{night} and L_{den} can provide a sound basis for this comparison.
- 2.5. An open dialogue, as part of a broader collaborative approach that fully reflects local circumstances, is central to the way M.A.G approaches the management of aircraft noise. As it will be necessary to communicate with and consult local stakeholders on the nature and outcomes of the proposals that are under consideration, M.A.G would not wish to exclude the use of additional noise metrics where they are felt to be desirable by stakeholders, to reflect local requirements and to fit local circumstances. However M.A.G believes any additional measures should be determined locally, that it is impractical and undesirable for the Commission to stipulate additional noise metrics that are appropriate for all circumstances and that the purpose of additional metrics should be to support the communication and consultation of proposals.

Are there additional relevant metrics to those discussed in Chapter 3 which the Commission should be aware of?

- 2.6. M.A.G believes that Chapter 3 of the discussion document considers a wide range of potential noise metrics and that there are no substantive additional measures that M.A.G would wish the Commission to consider.

What baseline should any noise assessment be based on? Should an assessment be based on absolute noise levels, or on changes relative to the existing noise environment? How should we characterise a noise environment currently unaffected by aircraft noise?

- 2.7. M.A.G recognises the complexity that is inherent in the assessment of noise impact. The situation is highlighted by Sustainable Aviation in its Noise Roadmap ^[ref 6], which draws three key conclusions:
- *The number of people impacted by each [noise] variable is not consistent, for instance a loud aircraft event on a windy morning generally results in fewer people annoyed than the same aircraft event on a still, foggy morning'.*
 - *'While the aviation industry can take direct control of some of the variables, it has only indirect influence over others and no control at all over the remainder'.*
 - *'Research is required to understand in more detail the specific weighting and interrelationships each of the variables has on the final result'.*
- 2.8. This complexity is also recognised by Government with the Aviation Policy Framework ^[ref 5] noting that 'There is evidence that there are people who consider themselves annoyed by aircraft noise who live some distance from an airport in locations where aircraft are at relatively high altitudes. Conversely, some people living closer to an airport seem to be tolerant of such noise'.
- 2.9. It is clear therefore that response to aircraft noise varies very significantly between individuals and whilst it is an important and relevant factor, the degree of change relative to existing background noise is just one of a range of factors that will influence an individual's response.
- 2.10. Given this context M.A.G suggests that greatest weight is accorded to an assessment of absolute noise levels. This approach recognises and accepts the limitations that are inherent in any noise assessment and provides a relatively simple and pragmatic way forward that ensures that the Commission's assessment of noise is able to compare differing proposals in an equitable way.

How could the assessment methods described in Chapter 4 be improved to better reflect noise impacts and effects?

- 2.11. M.A.G considers that the Commission's noise assessment method has two principal objectives:
- to estimate the absolute impact of any recommendations it is considering; and
 - to compare and contrast the impact of different capacity proposals.
- 2.12. It is also important that its assessment can be clearly communicated and supports consultation and communication, so that a diverse stakeholder audience can be engaged and ultimately that any conclusions gain wide-spread support.
- 2.13. As summarised in Chapter 4 of the Discussion Paper, the body of work in this area is substantial, introduces significant complexity and has developed over many years.
- 2.14. It is in this context that M.A.G recommends that the full suite of noise contours required by the Environmental Noise Directive ^[ref 2], viz. L_{day} , $L_{evening}$, $L_{AEQ,16h}$, L_{night} and L_{den} form the basis for the Commission's noise assessment method. As set out in our earlier answers this method would build on current and previous public consultations and reflects the standard noise assessment methodology that has been adopted throughout the European Union. The use of an L_{night} contour would allow noise at night to be properly considered and accorded appropriate weight.

Is monetising noise impacts and effects a sensible approach? If so, which monetisation methods described here hold the most credibility, or are most pertinent to noise and its various effects?

- 2.15. M.A.G accepts that monetising the impacts, both positive and negative, associated with the different options under consideration is desirable. In principle monetising impacts can introduce greater objectivity and ultimately improve decision making. However, we are cautious that the evidence base in this area is complex with significant uncertainty. We believe therefore that any

assessment should recognise the practical limitations of what can reasonably be achieved and that the findings must be employed appropriately. In particular M.A.G believes that whilst the findings from this type of assessment could be sufficient at a relatively high level to compare and contrast the nature of the different proposals under consideration, it would be inappropriate to use the monetising of noise impacts to directly define mitigation or compensation schemes. M.A.G believes that any mitigation or compensation schemes should focus on alleviating the impacts of aircraft noise and that any schemes should be consulted and agreed locally to reflect local circumstances and the views of local stakeholders.

- 2.16. As the Commission develops its thinking in this important area M.A.G would be happy to contribute more detailed comments to consider any detailed methodology that the Commission proposes to adopt.

Are there any specific thresholds that significantly alter the nature of any noise assessment, e.g. a level or intermittency of noise beyond which the impact or effect significantly changes in nature?

- 2.17. In advocating the use of the suite of noise contours required by the Environmental Noise Directive ^[ref 2], viz. L_{day} , $L_{AEQ,16h}$, $L_{evening}$, L_{night} and L_{den} , M.A.G believes that particular weight should be accorded to two key thresholds:
- Daytime - an $L_{AEQ,16h}$ value of 57 dB(A). The daytime value of 57 dB_{LAEQ,16h} reflects recently published Government policy, which notes that *'We will continue to treat the 57dB LAeq 16 hour contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance'*.
 - Night - an L_{night} value of 55 dB(A). The night-time value of 55 dB_{LAEQ,8h} is consistent with work undertaken by the World Health Organisation ^[Ref 4] which recommends an interim night noise target of 55 dB(A).
- 2.18. This approach recognises and accepts the limitations that are inherent in any noise assessment and provides a relatively simple and pragmatic way forward that ensures that the Commission's assessment of noise is able to compare differing proposals in an equitable way.

2.19. Whilst M.A.G notes the Commission's view that increased community concern regarding aircraft noise is '*...probably due to the increasing frequency of flights...*' there appears to be little objective evidence available exploring this point and as such M.A.G believes it would be inappropriate for the Commission to give undue weight to this point. By adopting the Leq metric advocated by M.A.G, the Commission's assessment would take account of both the frequency of aircraft operations and the noise of each individual noise event.

To what extent does introducing noise at a previously unaffected area represent more or less of an impact than increasing noise in already affected areas?

2.20. Whilst it would seem reasonable to assume that noise impact would be felt more acutely in those areas which are newly impacted by aircraft noise rather than those areas which are already affected, there is no objective evidence available to support this point.

2.21. In managing the effect of noise from operations at its airports, M.A.G believes there is merit, in so far as it can be practically achieved, in maintaining stable and long standing routing arrangements so that the system of 'flight paths' is widely communicated and widely understood.

2.22. This approach allows those living locally or those considering moving into the area to be aware of the likely distribution of aircraft operations and the noise they generate, so that they make take account of aircraft noise as part of their decision making process.

2.23. M.A.G believes that it would be prudent for the Commission to give some consideration to the degree to which those impacted by noise arising from any of the proposals under consideration were previously unaffected. However given the lack of objective evidence in this area we would suggest that, in accordance with our answer to previous consultation questions, that greatest weight is given to absolute noise impact using the metrics required by the Environmental Noise Directive ^[ref 2].

To what extent is the use of a noise envelope approach appropriate, and which metrics could be used effectively in this regard?

2.24. M.A.G's support for the concept of noise envelopes is long standing. Properly executed we believe that a noise envelope can be a powerful way to communicate noise impact and in particular to engage local stakeholders. A noise envelope can provide a degree of long term certainty so that local communities are informed about the likely impact of aircraft noise and can take account of aircraft noise as part of their decision making process.

2.25. In order for a noise envelope to be most effective M.A.G believes that it is important that once established it provides long term certainty taking account of any anticipated intensification in activity. It is also important that any noise envelope can be easily communicated and is simple to understand.

2.26. The need to communicate clearly influences the selection of metric and therefore M.A.G strongly favours the use of an Leq contour. The use of a contour line allows the spatial distribution of noise to be shown on a base map and the actual performance relative to the envelope to be regularly calculated and reported. The use of an leq contour is also consistent with the noise action plans published by all major European airports, in accordance with the requirements of the Environmental Noise Directive ^[ref 2].

To what extent should noise concentration and noise dispersal be used in the UK? Where and how could these techniques be deployed most effectively?

- 2.27. To date M.A.G airports have sought to concentrate aircraft operations as much as possible. A policy of concentration coupled with aircraft routing arrangements which ensure that 'flight paths' avoid built up areas as much as is practical has minimised the number of people impacted by aircraft noise. This policy is consistent with the Government's overall policy objective as set out in the Aviation Policy Framework ^[ref 5] which is to '...limit and where possible reduce the number of people in the UK significantly affected by aircraft noise'. By minimising the number of people impacted we have also been able to introduce relatively generous programmes of mitigation, in particular sound insulation grants to support those impacted by aircraft noise.
- 2.28. It is likely that M.A.G will continue to operate a policy of concentration and modern precision navigation techniques are increasingly supporting greater navigational accuracy and greater concentration.
- 2.29. It is reasonable to assume that some variation in routing such as regular predictable respite may well be of benefit at airports where the frequency of aircraft operations is greatest. M.A.G believes therefore that the optimum balance between concentration, dispersion and route alternation is something that is best defined locally in accordance with the requirements of local stakeholders. M.A.G does not believe that it would be appropriate for the Commission to recommend that any single approach is applied in all settings.

What constitutes best practice for noise compensation schemes abroad?

- 2.30. M.A.G has no particular knowledge of the nature of noise compensation schemes operating at airports outside the UK. We are though aware that a number of major airports offer sound insulation grants to those most impacted by aircraft noise. By way of example we would note the report by Bureau Veritas ^[ref 7], which summarised the international position. M.A.G operates sound insulation grant schemes at East Midlands, Manchester and Stansted Airports.

- 2.31. With regard to aircraft noise the Government's overall policy objective as set out in the Aviation Policy Framework ^[ref 5] is to '*...limit and where possible reduce the number of people in the UK significantly affected by aircraft noise*'.
- 2.32. M.A.G's policy of concentrating operations, coupled at East Midlands and Stansted with the Airports' relatively rural setting, means that relatively few people are significantly impacted by aircraft noise at these airports increasing the options for more generous support for individual mitigation.

3 References

Reference No.	Reference
Reference 1	Dft; The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003
Reference 2	European Commission; The Environmental Noise Directive (2002/49/EC) (2002)
Reference 3	Defra; Guidance for Airport Operators to produce noise action plans under the terms of the Environmental Noise (England) Regulations 2006 (as amended) (2013)
Reference 4	World Health Organisation; Night Noise Guidelines for Europe (2009)
Reference 5	Dft; Aviation Policy Framework (2013)
Reference 6	Sustainable Aviation; Noise Roadmap (2013)
Reference 7	Bureau Veritas; Comparison of Noise Insulation Grant Schemes - An Update (2009)