

# Night Flying Restrictions at Heathrow, Gatwick and Stansted: Stage 2 Consultation



Response from the Aviation Environment Federation  
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**The Aviation Environment Federation (AEF)** is the principal UK NGO concerned exclusively with the environmental impacts of aviation. Supported by individuals and community groups affected by the UK's airports and airfields or concerned about aviation and climate change, we promote a sustainable future for aviation which fully recognises and takes account of all its environmental and amenity effects. As well as supporting our members with local issues, we have regular input into international, EU and UK policy discussions.

## Introduction

This response to the second stage night noise consultation builds upon our earlier submission to the first stage night noise consultation in April 2013 when we focussed on the importance of recognising WHO recommendations on the noise exposure thresholds for avoiding health impacts. We are pleased to note that the second stage consultation takes into account the health impacts of night time aviation noise. Yet we approach this consultation with our view that the UK's night noise policy should be based on the long-term aim of reducing night noise to meet the WHO's guidelines. While we are able to offer insight into many of the issues considered, we would like to emphasise that questions which relate to specific details at individual airports will be best answered by local community groups and authorities.

## Q1: Do you agree with our preliminary view as to the new studies on health effects?

- 1.1 We welcome the increased seriousness and monitoring of the relationship between night noise and health and the fact that evidence on the health impacts of aviation will continue to be added to the DfT's WebTAG for use in future policy decisions. Particularly, we would like to highlight our support for the importance attached in the second stage consultation to the WHO's guidelines on night noise in Europe in setting limits above which night noise becomes 'increasingly dangerous' for public health.
- 1.2 The UK government must now apply the WHO's guidelines as long-term targets and successive reviews of the night noise regime should seek to impose a level of stringency that results in a continuous reduction in the noise environment until these targets are attained. We would also like to remind the government that the WHO's guidelines for community noise were stated as long-term environmental objectives for night noise in the DfT's consultation for the night noise

regime 2006-2012<sup>1</sup>. This regime continues in force today and it is proposed that it should continue as the regime for 2014-2017.

- 1.3 With regards to recent studies on the health impacts of aviation noise, we would like to highlight that the WHO's guidelines on night noise are themselves evidence based and recent studies, including the recent study by SAHSU on aviation noise around Heathrow referenced in the consultation document, add supporting evidence behind the relationship between aviation noise and health.
- 1.4 Finally, while we accept that the existing evidence of health impacts do not allow academics to conclusively prove a direct causation relationship, we hope that the government applies the same caution when considering evidence supporting the economic benefits of night flights.

## **Q2: Do you have any further views on the costs and benefits, including health impacts, which we should take into account in our decision?**

- 2.1 We believe that the costs and benefits taken into account in decisions on the night noise regime should strike a balance between the economic costs and benefits derived by the aviation industry and the wider economic, social and environmental impacts of any decision.
- 2.2 We would like to draw your attention to the efforts by CE Delft to construct a social cost and benefit analysis for any plans of airport expansion<sup>2</sup>. On each issue, such as noise, CE Delft break down the impact into quantitative and qualitative measurable outcomes, a monetary valuation of the impact and a factor for the impact is distributed across society.
- 2.3 The Airports Commission has attempted to monetise the health impacts of aircraft noise in their recently published draft Appraisal Framework, which looks at sleep disturbance and other health effects using 8 hour LAeq noise exposure and 24 hour LAeq noise exposure data. However, we emphasise the limitations to using average noise metrics such as LAeq in our answer to Q3.

## **Q3: Do you agree with the proposed environmental objectives?**

**First environmental objective:** *Limit and where possible reduce the number of people significantly affected by aircraft noise at night.*

- 3.1 The objective: We strongly believe that the government's overall objective on aviation noise, which is reflected in the first environmental objective, is effectively meaningless without a baseline or quantifiable target.
- 3.2 Assessment criteria: The consultation document suggests using the area and number of people within the 6.5 hour night quota period contours and particularly the 55dB contour. We believe that the LAeq metric used to produce the 6.5 hour night contour is useful for looking at trends over time in the average night noise. However, it is not effective for measuring the impact of the noise at night on communities. To measure this impact, two important factors that should be considered are loudness and the frequency of these loud events. To measure this, alternative metrics are required as outlined below.
- 3.3 Alternative metrics: We suggest the use of the LMax noise metric to measure loudness and the likelihood of sleep disturbance such as awakenings; the L90 metric, which reflects the background noise for 90% of the time, to measure background noise (a combination of the

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<sup>1</sup> See section 4.1 Department for Transport 2005 Night Flying Restrictions at Heathrow, Gatwick and Stansted Airports: Stage 2 of Consultation on Restrictions to apply from 30 October 2005

<sup>2</sup> Please see CE Delft (2013) The Economics of Airport Expansion, available from [http://www.cedelft.eu/publicatie/the\\_economics\\_of\\_airport\\_expansion/1363](http://www.cedelft.eu/publicatie/the_economics_of_airport_expansion/1363)

L<sub>Amax</sub> and L<sub>90</sub> will show the relative intrusion - for example, a lower L<sub>Amax</sub> may still be regarded as intrusive in areas where background noise levels are particularly low); and the NA (number above) metric to examine the frequency of events above a given noise threshold. We would recommend measuring NA<sub>63</sub> as it is consistent with the recommendations on night noise exposure made by WHO Europe<sup>3</sup>.

3.4 Measurement period: Notwithstanding our suggestion on alternative metrics, we would like to add our support to make the night quota period consistent with the commitment made in the APF to produce eight hour night noise contours. Monitoring and addressing the number of people within noise contours for the entire eight hours would better aid assessment of how many people are affected by night noise and would be more in line with EU noise mapping requirements and WHO recommendations.

**Second environmental objective:** *Reduce sleep disturbance resulting from use of the noisiest types of aircraft*

3.5 The objective: We would like to question what this objective seeks to achieve. If the objective seeks to reduce the number of the noisiest aircraft operating in night periods then that should be a standalone, albeit related, objective while reducing sleep disturbance should be another. We outline our reasoning below. We would recommend two new objectives: to reduce sleep disturbance in the night period; and to reduce the noisiest aircraft operating in the night period.

3.6 Assessment criteria: The consultation does not present any information to suggest that reducing the use of the noisiest aircraft (QC/4) will lead to lower sleep disturbance. The WHO recommends an L<sub>Amax</sub> limit of 42dBA indoor to prevent sleep disturbance, which translates using the WHO's calculated average attenuation level to 63dBA L<sub>Amax</sub> (see footnote 4 for a full explanation). If QC/2 or below aircraft continue to emit noise above the L<sub>Amax</sub> of 63dBA then monitoring the number of QC/4 aircraft operating in the night period will not necessarily contribute to reducing sleep disturbance. While we support the removal of the noisiest aircraft without question, it may not be sufficient as an assessment criterion to achieve part of the objective.

3.7 We would further like to add that there is a well known challenge of reconciling the noise classification metric (EPNdB)<sup>16</sup> used to produce the Quota Count with perceived noise on the ground and the findings of social surveys. This supports our conclusion that the proposed assessment criterion is unfit for purpose.

3.8 Recommended assessment criteria: To assess our two proposed objectives, we suggest that the DfT continues to monitor the number of movements of QC/4 aircraft as this is a relatively easy exercise and is fit for reducing the noisiest aircraft operating in the night period. To monitor steps towards reducing sleep disturbance, L<sub>Amax</sub> levels should be monitored for consistency with WHO recommendations.

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<sup>3</sup> The 63dB threshold which will be referred to throughout this document is based on WHO Europe guidelines. WHO Europe advises the level of noise that causes sleep disturbance is 42 dBA L<sub>Amax</sub> or higher inside bedrooms. Using a 21 dBA average attenuation level, this means the outside noise events must not exceed 63 dBA to avoid causing awakening. Please see WHO Europe (2009) Night Noise Guidelines for Europe. Available from: [http://www.euro.who.int/\\_data/assets/pdf\\_file/0017/43316/E92845.pdf](http://www.euro.who.int/_data/assets/pdf_file/0017/43316/E92845.pdf)

**Third environmental objective:** *Maintain a stable regulatory regime pending decisions on future airport capacity and, at Gatwick and Stansted in particular, to allow growth in movements up to existing night movement limits and within noise quotas*

3.9 We do not regard this as an environmental objective and it should be removed. We refer you to our answers to Q6 for comments on the proposed regime.

**Fourth environmental objective:** *Encourage the use of quieter aircraft during the night quota period so as to maintain the historic reduction in noise emitted per aircraft movement during the night quota period*

3.10 The objective: We support the use of less noisy aircraft in the night period but it should not lead to an increase in the overall number of noise events that continue to exceed WHO Europe guidelines. Achieving the proposed objective would suggest that each individual aircraft may emit less noise but more aircraft could fit within the noise quota. As we outline in our answer to Q8, communities would not benefit from individual aircraft being marginally less noisy if it permits more flights at levels still likely to cause sleep disturbance. We suggest amending the objective to: *encourage the use of quieter aircraft during the night period so as to reduce the overall impact of aircraft noise during the night period.*

3.11 Assessment criteria: The assessment criteria proposed permits the objective to be achieved through gradual fleet turnover so that the average QC points per movement will continue to decline without intervention. We draw attention to our point with regards to the second environment objective that QC points do not directly reflect noise impacts on communities and need to be supplemented with the additional metrics we propose above.

3.12 Additional comments: As well as addressing the health impacts associated with night noise, we would like to highlight the increasing sensitivity of communities to aircraft noise and we would recommend that environmental objectives should be reviewed to take into account existing and new dose/effect studies.

#### **Q4: Do you agree that the next regime should last until October 2017?**

4.1 As we outlined in our response to the first stage consultation, we do not believe that the current night noise regime is sufficient to tackle the night noise problem or contribute towards a long-term goal of reducing night noise below health-based targets and so we do not agree with its extension to 2017 and would urge an earlier review. We outline our reasoning in our answer to Q6.

4.2 The rationale is that it should provide a stable regime that will aid the Airports Commission's consideration of capacity issues by reducing uncertainty. However, the night noise regime is only relevant to the Commission's consideration of short-term capacity and these issues were reported on in the Commission's interim report in December 2013. Therefore, there is no justification for extending the regime to 2017 as it has little or no implications for a decision on a new runway by 2030.

4.3 To do otherwise risks introducing an unnecessary delay in reviewing the night noise regime while the Commission formulates its final recommendations potentially leading to further calls to maintain the *status quo* again for a short period of time. This again would not contribute to tackling the problem of night noise and neither would it decrease the health risk for communities living near to airports.

4.4 In summary, we acknowledge a need to review but there is justification for delaying until 2017 as night noise regimes are short-term, lasting up to six years and the Airports Commission recommendations are now focused on long-term options.

### **Q5: Do you have any views on the revised dispensations guidance?**

- 5.1 In our response to the question in the first stage consultation asking for views on how dispensations have been used, we recommended that they should be used sparingly. While the stage two consultation states that dispensations should only be used *'in exceptional circumstances'*, we believe the revised guidance needs to impose tougher controls to ensure that is the case. Dispensations are often used at Heathrow, as it has little resilience following operational disruptions because of the airport operator's business based decision to operate at full capacity. The community should not be expected to accept the adverse environmental consequences of disruption and the guidance needs to distinguish clearly between exceptional circumstances and operational inconveniences.
- 5.2 We note that the new guidance could mean more dispensations at Heathrow if the Airports Commission's early morning smoothing trial goes ahead. We do not believe that such a trial should have automatic dispensations from the night quota without prior communication with, and the approval of, local communities.

### **Q6: Do you agree that we should maintain the existing movement and noise quota limits until October 2017? If not, please set out your preferred options and reasons – this could include the noise and economic impact of any alternatives**

- 6.1 As we stated in our answer to Q4, we believe that night noise policy should aim to reduce night noise, ultimately to a level below WHO recommendations. This will require a progressive tightening of the quota limits. Maintaining the current regime does not achieve this objective and may even permit an increase in current noise levels at Stansted and Gatwick where utilisation is far below their respective caps.
- 6.2 We therefore recommend that the regime should be reviewed earlier and tightened so that it contributes to the government's overall objective on noise, to where possible reduce the number of people affected by aircraft noise.
- 6.3 We would like to reiterate that at Gatwick, where the summer quota usage has remained similar to the pre-recession period, just short of 80% usage, and at Stansted where the summer usage has been close to 75% since 2009, the current noise quota is not acting to limit night noise as the demand for night time slots appears to be considerably below the quota limit. We therefore recommend tightening the quota limit at all three airports to encourage less usage of the QC/4 aircraft and contribute to the night noise regime's environmental objectives.

### **Q7: Do you have any comments on our forecasts to October 2017?**

- 7.1 We would like to better understand the assumptions underpinning the significant improvements in the noise footprint at Heathrow forecasted over a short period of time (from 2011-12 when 132,400 people were within the 48dBA contour to 2014-15 when 103,600 people are within the same contour). The reasoning behind this significant improvement in the noise environment,

according to the Impact Assessment, appears to be BA's recent introduction of one A380 on a Hong Kong route. We feel that the consultation document should include more information to help communities and local authorities understand why this would result in such a large decrease in the night noise footprint at Heathrow, especially as the addition of a second A380 in 2015-16 has a much smaller impact. More explanation is needed with the forecasts if they are to gain wide acceptance.

### **Q8: Do you have any views on how the benefits of quieter aircraft can be shared in future between communities living close to the airport and the aviation industry?**

- 8.1 This question appears to be loaded towards suggesting that the aviation industry should be able to gain from less noisy individual aircraft by being allowed more night flights. However, we strongly argue that this should only be the case if the new, quieter aircraft reduce noise to below the WHO's recommended threshold. We set out a methodology in the next paragraph for assessing the point where less noisy aircraft should permit a greater number of aircraft in the night period.
- 8.2 In our answer to Q3, we stated that the LAeq metric is not an effective indicator of the impacts of noise on communities and so it should not be the only metric used to assess whether communities gain from quieter aircraft. We recommend that supplementary metrics should be used. The LAmx metric is highly useful for examining the extent to which communities would gain following the introduction of quieter planes and the phasing out of the noisiest aircraft. Below a threshold of LAmx 63dBA, the industry could be allowed to increase the number of night flights within the overall quota. However, if the LAmx level is reduced only from 75dBA to 70dBA for example, still above the WHO recommended threshold, night flights will continue to cause disturbance to communities and the industry should not benefit.

### **Q9(a): Do you agree with extending the operational ban of QC/8 and QC/16 aircraft to the entire night period (23:00 – 07:00)?**

- 9.1 Q25 in the first stage consultation asked about the feasibility of banning QC/8 and QC/16 aircraft for the entire night period. We stated in our response that we would support the ban but that it would make very little difference to aviation night noise around the three airports due to the very small numbers of these aircraft operating in the night period at the three airports. We maintain that position. We believe that the fact that this is the only 'significant' proposed change to the night noise regime highlights the lack of ambition of the Department for Transport to improve the night noise situation.

### **Q9(b): Do you agree with our assessment of the costs and benefits in the draft IA?**

- 9.2 The impact assessment of the costs and benefits of maintaining the current regime for a further three years includes non-monetised costs that refer only to the impact on airlines, passengers and the environment of delays caused by the night noise regime. The IA does not draw attention to the continuing costs to communities of sleep disturbance or other health impacts from the current regime being extended for a further three years. This is despite the first part of the consultation document highlighting the increasing evidence base supporting a relationship

between aviation night noise and health. Additionally, even the Airports Commission is attempting to include some estimate of the cost of noise on health in their appraisal framework. We therefore find it difficult to comprehend why these costs have not been considered. We would also advise that the IA includes other costs included in our answer to Q2.

9.3 In reference to the assessment of the costs and benefits of the proposed QC/8 and QC/16 ban, it is clear that, as expected, there are no costs or significant benefits of the proposal as the change would have such a small change on the current regime.

9.4 We believe that a cost and benefit analysis of a QC/4 ban would have been much more enlightening in terms of the potential benefits or costs of such a ban. We highlighted this in our response to the first consultation and we are disappointed not to see it reflected in this second stage consultation.

### **Q10: Are there any other changes to the regime which we should consider?**

10.1 As well as the suggestion we make in our answer to Q6 that the quota limits should be tightened, we would like to suggest two other changes to the regime. First, we recommend that the night quota period should be extended to cover the entire night period. The EU environment noise directive requires that noise is mapped for the entire night period and the night flight regime should aim to tackle night noise for the entire period.

10.2 Our second suggestion is that there should be an assessment of the costs and benefits of a ban on QC/4 aircraft throughout the night period in order to ensure movement in the night noise regime towards achieving its environmental objectives of reducing the number of the noisiest aircraft and encouraging the use of quieter aircraft.

### **Q11: Do you have any further comments on the scope for trialling new operational procedures which have potential noise reduction benefits in the period up to 2017?**

11.1 We would like to raise concerns which emerged during Heathrow's recent '*operational freedoms trial*'. While the airport did consult about the trial, there was a lot of public and local authority frustration with the lack of transparency about the trial. We therefore urge greater communication and transparency to be necessary for any other potential trials.

11.2 Local community groups and local authorities are best placed to suggest ideas for new operational procedures to reduce noise at individual airports.

### **Q12: Are there any other matters you think this consultation should cover?**

12.1 The consultation should also cover the issue of how QC certification relates to actual noise performance. The consultation document cited the example of the Airbus A380 with a specific Rolls Royce engine in fact being louder than its certified quota count. We also highlighted earlier, in our answer to Q3 that the QC certification does not always correspond with the perceived impact on communities. We therefore suggest that the consultation recommends a study comparing actual noise measurements with certificated data to ensure that they remain a reasonable basis for the regime.

**Q13(a): Do you agree with the locations of the proposed new noise monitors at Heathrow? If not, are there alternative locations you would favour and why?**

**Q13(b): Do you agree with the proposal to apply runway-specific limit adjustments for easterly departures at Heathrow? If not, please give reasons.**

13.1 We believe that communities around Heathrow and local authorities would be best placed to answer these questions and we hope that the DfT takes their views on the issue into account.

**End of consultation response**

**Contact:**

James Lees  
Aviation Environment Federation  
Broken Wharf House  
No. 2 Broken Wharf  
London, EC4V 3DT  
Email: [james@aef.org.uk](mailto:james@aef.org.uk)  
Telephone: 020 7248 2223