



Department
for Transport

Night flight restrictions at Heathrow, Gatwick and Stansted Decision Document

Moving Britain Ahead

July 2017

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Introduction

- 1 This government response follows the consultation launched on 12 January on options to replace the existing night flight restrictions at Heathrow, Gatwick and Stansted Airports, which expire in October 2017¹.
- 2 In our consultation we proposed a five year regime, lasting until October 2022, which would maintain the status quo in terms of movements while encouraging the use of quieter aircraft at all three airports.
- 3 To achieve this we proposed to introduce changes to the quota count system to ensure communities living around airports were protected from a potentially unlimited number of aircraft that would otherwise be exempt from the restrictions. We also proposed to adjust Stansted's movement limits to reflect the fact that a large number of these exempt aircraft are already operating there.
- 4 In order to incentivise the use of quieter aircraft at each airport we also proposed that as a minimum noise quota limits at Heathrow and Gatwick should be reduced to prevent the average amount of noise produced by an aircraft from becoming any higher than is currently the case. At Stansted we proposed the noise quota limit should not rise so that if the adjusted movement limit was to be fully utilised, the average noise quota of an aircraft will have to reduce compared to the current level. We also stated we would look to make further reductions to noise quotas if these would be feasible and could be done without reducing the existing benefits of night flights at these airports.
- 5 While we have amended some of our original proposals following consideration of the numerous consultation responses that were received, we do not consider there to be any new evidence or arguments put forward that would justify moving fundamentally away from the approach proposed within our consultation.
- 6 Our final environmental objective for the next regime is therefore to **'Limit or reduce the number of people significantly affected by aircraft noise at night, including through encouraging the use of quieter aircraft, while maintaining the existing benefits of night flights'**
- 7 Our achievement against this objective will be measured by:
 - The area of and number of people in the 48dB LAeq 6.5hr night contour
 - Sleep disturbance impacts associated with night flights, assessed using webTAG methodologies.²
 - The average noise on an aircraft (as measured by the average noise Quota Count per aircraft movement over the course of a season).

¹ Night flight restrictions at Heathrow, Gatwick and Stansted: consultation document, <https://www.gov.uk/government/consultations/night-flight-restrictions-at-gatwick-heathrow-and-stansted>

² As measured down to 45dB LAeq 6.5hr using the Department for Transport's webTAG methodology. It is not currently possible to robustly value health and annoyance impacts associated with night noise. WebTAG is regularly assessed to ensure the evidence base and methodologies are up to date. We will monitor this area to ensure any changes in webTAG are reflected in this indicator.

- Number of movements in the night quota period
- 8 The next night flights regime, which will last until October 2022, will maintain the status quo in terms of movements. A new QC/0.125 category will be introduced to capture the bulk of aircraft which are currently exempt, and any aircraft that are quieter than this will also count towards an airport's movement limits though they will remain exempt from the noise quota limits. Stansted's movement limits will be adjusted to reflect these changes while the movement limits at Heathrow and Gatwick will remain the same.
 - 9 We will reduce noise quota limits at Heathrow and Gatwick to a value based on their current usage, though the final limits differ slightly from those proposed within our consultation due to adapting our methodology for calculating these as a result of feedback received from consultation responses. These final limits represent significant reductions in noise quota limits that will mean if an airport is to make maximum use of its movement allowance then the average noise produced by an aircraft cannot increase. This will further incentivise the use of quieter aircraft by encouraging industry to plan its operations with sufficient headroom to ensure the limits can still be complied with in the event of unplanned disruption or changes to their schedules.
 - 10 At Stansted, the current noise quota limits will remain in place. Coupled with the adjustment to the airports movement limits, this will mean that the noise produced on average by an aircraft will have to reduce compared to today's level if the airport is to fully utilise its new allowance. Overall, our changes at Stansted will benefit communities by meaning fewer movements will be allowed to take place and less noise will be able to be produced than if the existing rules remained in place.
 - 11 In our consultation we proposed to consider options for further noise quota reductions beyond these limits. However, we did not receive sufficient information through our consultation that would allow us to set further reduced noise limits with any certainty that they would be achievable and would allow the existing benefits of night flights to be maintained.
 - 12 Following feedback received through our consultation about the timing of our proposals on night flights coming later than airlines would usually begin planning their changes for the winter 2017/18 and summer 18 seasons by, we have decided to defer some of these changes for the first year of the regime.
 - 13 Therefore, from October 2017:
 - All aircraft movements will now count towards an airport's movement limit. No aircraft will be exempt from the movement limits but aircraft that currently fall below the QC/0.25 threshold will remain QC/0 (i.e. exempt from the noise quota limits).
 - Stansted's movement limits will be adjusted to 5,600 in the winter and 8,100 in the summer
 - 14 Then, from October 2018:
 - A new QC/0.125 category will be introduced for aircraft from 81 to 83.9 EPNdB
 - Aircraft quieter than this will continue to count towards the airports' movement limits and remain QC/0
 - Noise quota limits at Heathrow will be reduced to 2415 in the winter and 2735 in the summer and at Gatwick to 1785 in the winter and 5150 in the summer.

15 The rules for next regime are summarised in the table below.

Table 1 - Structure of night flights regime, October 2017-2022

	Movement Limit	Noise Quota Limit	Quota Count for aircraft between 81-83.9 EPNdB
Heathrow			
Winter 2017/18	2550	4080	QC/0
Summer 2018	3250	5100	QC/0
Winter 2018/19 - Winter 21/22	2550	2415	QC/0.125
Summer 2019 - Summer 22	3250	2735	QC/0.125
Gatwick			
Winter 2017/18	3250	2000	QC/0
Summer 2018	11200	6200	QC/0
Winter 2018/19 - Winter 21/22	3250	1785	QC/0.125
Summer 2019 - Summer 22	11200	5150	QC/0.125
Stansted			
Winter 2017/18	5600	3310	QC/0
Summer 2018	8100	4650	QC/0
Winter 2018/19 - Winter 21/22	5600	3310	QC/0.125
Summer 2019 - Summer 22	8100	4650	QC/0.125

16 The following section summarises the responses received to our consultation and how the government has considered these points in reaching its decision. Our impact assessment, which is published alongside this government response, also sets out the estimated costs and benefits of the changes that will be introduced.

1. Overview of consultation responses

- 1.1 This section provides an overview of the consultation responses received on our proposals. The following chapters then summarise the responses received to individual questions on our consultation proposals, along with the government's response on these matters. Additional analysis of responses utilising techniques employed at data scientists at the Department for Transport is included in a separate document published alongside this government response.
- 1.2 Overall, 1252 responses to the specific proposals in our consultation were received. We also received another approximately 1250 further responses about the topic that did not specifically address any of the proposals, or were campaign responses supporting the responses of other organisations, including a campaign from a community group around Gatwick that was submitted almost 800 times.
- 1.3 Of the detailed responses, the breakdown by respondent type is given in the table below:

Table 2 - Breakdown of responses by organisation type and individual

Individual	1097
Aircraft noise community group or other environmental group	35
Airline	16
Airport	5
Alternative aviation business (e.g. aircraft manufacturer or air-traffic control)	8
Business/business umbrella organisation or Trade Union	4
Charity	2
Freight carrier or express service	4
Public Body (including MPs and political parties)	74
None of the above	7
Grand Total	1252

Community responses

- 1.4 Responses from individuals, community groups, MPs and local authorities tended to argue that our proposals would not have a significant impact on the level of night flight activity or the noise communities would experience. A recurring criticism was that the part of our proposed environmental objective concerned with 'maintaining the existing benefits of night flights' led to limit the range of options that were considered for the number of flights that could take place.
- 1.5 Many respondents wanted to see an outright ban on night flights. Given that the government has stated it expects a ban on scheduled night flights of six and a half

hours if a third runway is built at Heathrow³, some respondents saw the rationale for continuing with the current allowance until this point, though more responses argued that a ban should be introduced immediately.

- 1.6 At Gatwick and Stansted there were calls for a ban to be phased in by gradually reducing the number of night flights - beginning with removing surplus winter movements, and for there to be no adjustment to accommodate currently exempt aircraft as the sole aim of the regime should be reducing the harmful impacts of night noise.

Industry responses

- 1.7 Responses from industry generally argued that our proposals were too restrictive, particularly with regards to the noise quota limits proposed at each airport. Arguments also focused on how the government was not adequately pursuing other measures to reduce noise problems, such as reducing inappropriate housing development near airports, or how there was no need or evidence-based reason for introducing a new noise category for currently exempt aircraft.
- 1.8 Industry responses argued that because of the timing of the consultation on the restrictions airlines would not have time to react to any scheduling changes that may be required. They therefore argued that changes should not take effect for at least the first year of the next regime.

Responses to individual proposals

- 1.9 The following chapters summarise the responses received to the proposals within our consultation document, along with the government's response and final decision on these matters.

³ On 2 February 2017 the government launched a consultation on the Draft Airports National Policy Statement which set out the need for additional airport capacity in the south-east of England, why government believes that need is best met by a Northwest runway at Heathrow Airport and the specific requirements that the applicant for a new Northwest runway will need to meet to gain development consent - including the government's expectation of a ban of six and a half hours on scheduled night flights. The consultation closed on 25 May and responses to it are being analysed.

2. Environmental Objective

Proposal

- 2.1 In our consultation, we recognised that night flights are widely regarded as the least acceptable aspect of aircraft operations, but that they also offer benefits to the UK. While the government has therefore stated it expects a ban on scheduled night flights of six and a half hours at an expanded Heathrow, we agreed with the Airports Commissions conclusion that there was no case for further restrictions on night flights at a capacity constrained Heathrow⁴.
- 2.2 We also considered that given the capacity constraints in the south east and the business models of the airlines based at Gatwick and Stansted, it was important to maintain the benefits offered by night flights so that capacity in the south east is not constrained further before a new runway at Heathrow is operational.
- 2.3 We therefore proposed that the next regime should ensure that the existing benefits of night flights were maintained while delivering the best possible improvements in the noise climate. As a result, the environmental objective in our consultation document was to 'encourage the use of quieter aircraft to limit or reduce the number of people significantly affected by aircraft noise at night, while maintaining the existing benefits of night flights'.
- 2.4 There are also potential opportunities for both Heathrow and Stansted to agree night flight restrictions through other means in the coming years. This objective would therefore ensure that alongside improvements in the noise climate around these airports, the next regime would leave scope for local decisions to be made on night flights in the future.
- 2.5 To measure progress against our environmental objective, we proposed the following criteria:
 - The area of and number of people in the 48dB LAeq 6.5hr night noise contour. This is a different measure to that used for the current regime, but reflects increased evidence about the impacts of lower noise levels on sleep disturbance and health.
 - The average QC per movement.
 - Number of movements in the night quota period

Summary of consultation responses

- 2.6 We asked the following questions on our environmental objective.

Q1a. How strongly do you agree or disagree with our proposed environmental objective for the next regime?

Q1b. Do you have any additional comments on our proposed environmental objective for the next regime?

⁴ Airports Commission (2015) Final Report, <https://www.gov.uk/government/publications/airports-commission-final-report>

- 2.7 A majority of responses to our consultation disagreed with our proposed environmental objective. Whilst many were supportive of encouraging quieter aircraft, respondents felt the objective did not go far enough towards limiting noise impacts for communities around airports. Some respondents were concerned that the impact of quieter technology would have a limited effect on those most affected.
- 2.8 Many individuals and communities living around airports felt that the focus of the objective should be to prevent flights from operating at all during the night, either through an outright ban or by phasing them out gradually. These respondents suggested various different times between which there should be no flights, with a ban between 2300 and 0700 the most common suggestion. Some respondents pointed to the noise levels recommended by the World Health Organisation, and a statement from 2003 that the government intended to work towards taking account of these guideline levels by 2030⁵.
- 2.9 A large number of respondents, including a campaign response submitted approximately 800 times, were unhappy with the objective as they felt it pre-determined the outcome of the review and that the benefits of night flights were not adequately identified or quantified as part of the consultation on options. This campaign response called for a more radical review of night flight restrictions and the costs and benefits associated with them.
- 2.10 These responses also disputed the proposed method for measuring impacts on communities and progress against the environmental objective. In particular, it was argued that only producing noise contours to 48dB LAeq 6.5hr ignored the impacts on communities further away from airports and thus underestimated the costs associated with night flights. Concerns were also raised that focusing on average noise levels was inappropriate for assessing the impacts on communities, and that limiting or reducing the number of people within a specific contour could lead to options that favoured the concentration of aircraft more intensely over fewer people.
- 2.11 Industry were generally supportive of the objective but asked that in measuring it consideration was given to take account of new homes that are built within the relevant contours. Some airlines also felt the new objective penalised those who had already invested in quieter aircraft. Many industry responses welcomed the recognition by government of the benefits night flights offer and highlighted the importance of night flights to the business models of airlines, for instance by allowing low-cost airlines to operate the necessary minimum amount of rotations a day, or the benefits to the time-sensitive freight sector through enabling next day deliveries. There were some calls to consider other measurements to determine whether the element of the environmental objective relating to the benefits of night flights was being met.
- 2.12 There were also some responses calling for government to set night flight restrictions at Luton airport.

Government response

- 2.13 The Government continues to believe that night flight activity offers significant benefits to the UK. These include the benefits to consumers and the economy through both increased competition and choice for customers - business and leisure, and helping to preserve the UK's connectivity to a wide range of locations and its status as a great place to do business. There are also the wider economic benefits that flow from night flights. For instance the next day deliveries they allow from far

⁵ Night Flying Restrictions at Heathrow, Gatwick and Stansted. Stage 1 of Consultation on Restrictions to apply from 30 October 2005. July 2004.

away destinations are important for keeping the economy moving and ensuring businesses and consumers get the goods they need when they need them.

- 2.14 Night flights are especially important to the business models of the airlines operating at Gatwick and Stansted. Given the current capacity constraints within the south east, placing additional constraints on night flights would reduce the ability of low-cost carriers to operate the minimum number of rotations per day to make their services viable. This would have an impact upon competition and consumer choice.
- 2.15 If there were to be further constraints on night flights it is likely airlines would choose to base their aircraft elsewhere and, if these were to be relocated outside of the UK, this would reduce not just the economic benefits of night flights themselves, but also the wider benefits referred to above. This would represent a failure to make use of the existing capacity in the south east and result in fewer benefits for passengers in terms of choice and competition, as well as economic costs to the UK as a whole.
- 2.16 At Heathrow, the situation is slightly different. The government has set out its expectation in the Draft Airports National Policy Statement, that it expects a ban on scheduled night flights at Heathrow of six and a half hours as a condition of the building of a third runway. The Airports Commission's final report however noted that the benefits of night flights at a capacity-constrained Heathrow are clear - supporting connectivity to high-value long-haul destinations and concluded that further constraining night flights in the current environment would damage the UK's connectivity⁶.
- 2.17 At this moment therefore, the government considers that there are no realistic alternatives to night flights that would allow the UK to continue to reap the existing benefits it derives from having a world-leading aviation sector. Having taken into account the responses received to the consultation, the government therefore continues to believe the proposed approach to limiting or reducing the number of people significantly affected by aircraft noise, while maintaining the existing benefits of night flights, remains the correct one for the next night flights regime.
- 2.18 The government has however decided to change the wording of the objective following consideration of the responses received. We recognise that the focus should be on limiting and, where possible, reducing the harmful impacts of night noise rather than solely encouraging the use of quieter aircraft. The environmental objective we have decided on is therefore to **'Limit or reduce the number of people significantly affected by aircraft noise at night, including through encouraging the use of quieter aircraft, while maintaining the existing benefits of night flights'**.
- 2.19 Regarding the relevance of the WHO Guidelines for Community Noise, these have always been intended as guidelines and not binding limits. These levels apply to noise from all sources and not just aviation and addressing aviation noise in isolation is unlikely to achieve these levels given the totality of noise from all sources. For instance, the National Noise Incidence Study 2000/2001 which was undertaken on behalf of Defra, showed that 95% of the population are exposed to 40dB average noise or more.⁷
- 2.20 Regarding how progress against our environmental objective will be measured, we recognise that some individuals will be disturbed by aircraft noise at night who are outside the 48db LAeq 6.5hr contour. It is not possible however to accurately produce noise contours for night time noise below this level as the CAA's model used

⁶ Airports Commission final report

⁷ National Noise Incidence Study 2000/2001 randd.defra.gov.uk/Document.aspx?Document=10281_206345f.pdf

to create noise contours requires validation from real aircraft noise events, which at these levels are hard to distinguish from other noise sources. There is also greater uncertainty about where precisely an aircraft will be at these further distances from airports so it is much harder to predict what the sound from an aircraft will be at an exact location.

- 2.21 The 48dB LAeq 6.5hr contour is therefore used for comparative purposes to measure progress and assess the impacts of different options for the night flights regime. Our assessment of the health impacts associated with different options does measure impacts below this - down to 45dB LAeq 6.5hr, which is consistent with the WHO's Methodological guidance for estimating the burden of disease from environmental noise⁸. To ensure consistency with this guidance, and the proposals we have made in our UK Airspace Policy consultation⁹, we will include the change in sleep disturbance impacts down to 45dB LAeq 6.5hr as one of the measures of progress against the final objective.¹⁰
- 2.22 Regarding how the benefits of night flights are measured for assessing progress against our environmental objective, we recognise that these are not fully captured by the number of movements that take place. Our impact assessment published alongside this government response does apply a methodology for assessing changes in the costs and benefits of the restrictions on airports, airlines, passengers and public accounts, but this uses assumptions based on changes in the number of night flights that take place at each airport. We will therefore continue to measure progress against this element of the objective by the number of flights in the night quota period, but when considering any future changes to the restrictions we will give consideration to how these benefits can otherwise be assessed.
- 2.23 Finally, when assessing progress against measuring the use of quieter aircraft by the average QC per movement, we will ensure historical comparisons can be made by ensuring previous data is adjusted to reflect the changes to the QC system we will be making for the next regime.
- 2.24 Finally, regarding calls for night flight restrictions to also be set at Luton, the government is currently reviewing its role at the designated airports in the future and has made proposals for how operating restrictions, such as those on night flights, should be set at all airports¹¹. Responses to that consultation are currently being analysed but at this moment there are not any plans to extend the list of airports where the government sets night flight controls as this would go against the government's policy that noise is usually best managed locally. It should also be noted that night flight restrictions are also in place at Luton Airport as a condition of planning permission approved by Luton Borough Council. These limits are lower than those at either Gatwick or Stansted¹².

⁸ This excluded noise levels below 45dB Lnight because it was deemed 'the assessment of those noise levels was relatively inaccurate and other sources may be more important in situations with these low levels'

⁹ On 2 February 2017, the government published its UK Airspace Policy consultation which included proposals for the appointment of competent authorities to oversee the process for adopting operating restrictions (such as night flight restrictions). The consultation closed on 25 May and we are analysing the responses received to it.

¹⁰ The assessment of sleep disturbance will follow webTAG noise appraisal guidance. Whilst it is acknowledged that aviation night noise can affect amenity and health there is currently no approved methodology for valuing these impacts on a consistent basis during the night period. WebTAG is regularly assessed to ensure the evidence base and methodologies are up to date. We will monitor this area and update the performance indicator as appropriate.

¹¹ See UK Airspace Policy consultation

¹² <http://www.london-luton.co.uk/CMSPages/GetFile.aspx?guid=e7def248-7bcf-4425-b49c-aaf4e4234f98>

3. Length of the regime

Proposal

- 3.1 We proposed a five year period for the next night flights regime which would run from October 2017 to 2022. This would provide certainty for industry and communities in the coming years. It would also be a sufficient length of time to allow there to be further clarity about airport expansion in the south east and the outcome of Stansted's intended planning application to increase its passenger cap¹³, before future decisions on the night flights regime are made.
- 3.2 We made clear in our consultation document however that we did not expect setting a five year regime to preclude more bespoke, airport-specific arrangements being put in place - either through arrangements tied to the planning process or other means.

Summary of consultation responses

- 3.3 Responses to this question varied but a majority disagreed with the length of the regime and called for the timeframe be reduced to allow for a transitional regime while further research was carried out to inform decisions on restrictions for subsequent years.
- 3.4 Many of the industry responses were supportive of the regime length, though some highlighted the importance of regime certainty for scheduling and fleet mix planning. Some suggested the existing regime be rolled over for a further year to allow the industries to adapt to changes being brought in while some responses also asked that a review be carried out two years prior to the expiry of the next regime to ensure there were no negative impacts on economic growth.
- 3.5 Respondents from individuals and community groups were less supportive, making varying suggestions for the length of the regime, including a two year period. The most common reason stated for this was to allow for further research to be carried out and a more radical range of options to be considered.
- 3.6 Regarding the possibility of airport-specific controls being agreed during the course of the next regime, some elements of industry were supportive of this proposal but others considered it was appropriate for central government to continue setting such restrictions or to at least consider whether common principles should apply. Other respondents also expressed concerns about such arrangements, and offered various suggestions such as allowing all local authorities in the area of the airport, and not just the planning authority, to decide on future restrictions. Others claimed there was a need for further guidance on common standards or for an independent body to monitor.

Government response

- 3.7 Having considered responses to this question, the government continues to believe the next regime should be for five years. This is in line with the length that previous

¹³ <http://mediacentre.stanstedairport.com/london-stansted-announces-local-community-consultation-on-making-best-use-of-existing-capacity/>

regimes have generally been set for and will provide a stable regulatory regime up until 2022, during which time other decisions which could affect the capacity at these airports can be made.

- 3.8 Regarding comments that called for early changes to the limits to be considered for two years prior to the end of the regime, under current rules governing the introduction of operating restrictions¹⁴, work to update the restrictions would have to begin more than two years before any changes took effect. Performing a full review of the restrictions to introduce changes several years before October 2022 would therefore not be realistic under existing requirements.
- 3.9 The government continues to believe that noise controls are generally best agreed locally and that, if there is an opportunity for bespoke, airport-specific arrangements to be put in place at any of the designated airports during the five year period, this would be appropriate. Any such arrangements would need to take account of the Balanced Approach and be subject to appropriate consultation. Final decisions on how such airport-specific arrangements may be taken forward will form part of the government's response on UK Airspace Policy which will be published in due course.

¹⁴ Rules on the introduction of operating restrictions are set out under Regulation (EU) 598/2014. The government has committed to preserving EU regulations in domestic law so that people have certainty and stability about the rules that will apply when we leave the EU. Once the UK has left the EU though, the future development of legislation will be a matter for Parliament

4. The Quota Count System

Proposal

- 4.1 Over the course of the next regime, several new types of next generation aircraft will come into service that would be exempt under current rules because they are quieter than the current lowest quota count (QC) category that covers aircraft which have been classified for noise purposes between 84 and 86.9 EPNdB. This is in addition to the large increase in recent years at Stansted of movements by smaller aircraft, such as business jets, which are also currently exempt.
- 4.2 As our consultation documents explained, while these are quieter than other aircraft operating at these airports, they still produce noise levels that the World Health Organisation found could be associated with sleep disturbance¹⁵. To ensure there would be proportionate regulation of these aircraft, and that communities would be protected from the effects that would occur if a potentially unlimited number of these aircraft were allowed to operate during the night, we proposed that:
- A new QC/0.125 category should be introduced for aircraft between 81 and 83.9 EPNdB.
 - To ensure greater transparency and certainty for communities, while maintaining incentives for producing and purchasing quieter aircraft, all operations by aircraft quieter than this should count towards an airport's movement limit, but remain exempt from the noise quota limits - i.e. QC/0.

Summary of consultation responses

- 4.3 We asked the following questions on our proposals for how aircraft quieter than 84 EPNdB should be treated under the restrictions:
- Q3a. How strongly do you agree or disagree with our proposal to introduce a new QC/0.125 category for aircraft between 81 and 83.9 EPNdB?**
- Q3b. How strongly do you agree or disagree with our proposal for all aircraft quieter than this to remain QC/0 but count towards the airports movement limit?**
- Q3c. Do you have any additional comments on our proposals for the Quota Count System?**
- 4.4 A majority of respondents agreed with our proposals to introduce a new QC/0.125 category and for all aircraft to be included within the airports' movement limits. While there were calls from individuals, community groups and public bodies for there to be no exemptions from the noise quota limits for aircraft quieter than the proposed new category, they did agree that including all aircraft within the movement limits would provide greater transparency on the true extent of night operations and help build trust around the restrictions.

¹⁵ World Health Organisation (1999) WHO Guidelines for Community Noise, <http://www.who.int/docstore/peh/noise/guidelines2.html>

- 4.5 Industry were generally content for all aircraft to be counted within an airport's movement limit, but were not supportive of the creation of a new QC/0.125 category. These responses argued that there was no scientific basis to introduce a new QC category and that doing so penalised those who had already decided to invest in quieter aircraft based on the existing system.
- 4.6 Some industry responses also argued that 'moving the goalposts' in this manner had the potential to prevent investment in quieter aircraft going forward. Many industry respondents asked that these changes be delayed to allow for more research to be undertaken on whether a new QC category was justified. It was argued that in the interim period, currently exempt aircraft should count towards movement limits pending the outcome of this further review.
- 4.7 Although not received until well after the consultation closed, there were concerns from the Business Aviation community that the proposed changes which would result in certain types of aircraft no longer being exempt from the movement limits would have significant impacts on the ability of business aircraft to operate in the night. Their arguments for this were that the majority of business aircraft are exempt under existing rules and therefore do not require slots, which are harder to secure for these type of non-scheduled services. They therefore called for the existing number of movements used by business aviation operators to be 'grandfathered' for their continued use.
- 4.8 While non-industry responses were generally supportive of our proposed changes to the QC system, some suggested that further changes should be made to improve the noise environment. Suggested changes included banning QC/4 aircraft from operating at all during the night, and enforcing a gradual reduction in the QC limit over the length of the regime. Some respondents were also concerned about the accuracy of the QC ratings assigned to aircraft and asked that a review take place to ensure they correctly reflect the actual noise produced - though this matter was addressed in the consultation document.
- 4.9 Following publication of our consultation, it was also brought to our attention that our proposed changes could have an impact on the small number of instrument landing system (ILS) calibration flights at these airports. Some of these ILS calibration flights take place in the night period and are currently exempt, as do other types of movements by light prop aircraft for which no formal noise classification system exists¹⁶.

Government response

- 4.10 The government disagrees that there is insufficient evidence to justify a new QC category and we also continue to believe counting all aircraft towards an airport's movement limit is the correct approach. As explained within our consultation document and impact assessment, these aircraft can still expose affected communities to noise levels that the WHO identify as being capable of causing sleep disturbance. It is therefore right that they are treated in a proportionate way to other aircraft.
- 4.11 Extending the QC scale downwards by a further 3dB band to introduce a new QC/0.125 ('QC eighth') category, consistent with the fact that a 3dB decrease represents a halving of noise energy, would help prevent a proliferation of exempt aircraft and also provide incentives for the use of even quieter aircraft at night (below

¹⁶ For noise certification purposes, a light propeller-driven aircraft is defined as an aircraft with a maximum certificated take-off weight not exceeding 8,618 kg. Examples of light prop aircraft in current use at the London airports include the Beechcraft King Air and Diamond DA42.

81 EPNdB), which will remain exempt from noise quota limits. Ensuring that these quieter movements still count towards an airports movement limits however will increase transparency for local communities about the maximum number of flights and amount of noise they can expect to be exposed to.

- 4.12 With regards to the impact on business aviation and other non-scheduled flights at Stansted, the government has no powers to determine which operators an airport's available capacity is assigned to. Our changes would not however prevent these operations from operating during the night quota period and there are already other non-scheduled aircraft which are not currently exempt that count towards both an airport's movement and noise quota limits. In this regard the government would expect business aviation operators and representatives of other non-scheduled services that operate at Stansted to continue to work with the designated slot co-ordinator and the airport operator to determine their operations during the night quota period.
- 4.13 While the government will therefore continue with these changes, we recognise that airlines have planned their operations for the winter 2017/18 schedule season and that our announcement on night flights has come after the point when industry would usually have expected it. In order to therefore give airlines sufficient notice to plan for these changes, we will delay some of these until the Winter 2018/19 season.
- 4.14 Therefore, from October 2017, all movements that are currently exempt will count towards the airports' movement limits. These will all however remain QC/0 and be exempt from the noise quota limits.
- 4.15 From October 2018, the new QC/0.125 category will be introduced which will apply to the majority of exempt aircraft currently in operation at these airports. The delay in introducing the new QC category will provide sufficient time for industry to adapt to the changes we are making, while counting exempt flights towards movement limits will ensure there is no increase in the number of exempt aircraft operating at the airport in the interim period.

Exceptions for light propeller aircraft and ILS calibration flights

- 4.16 ILS calibration flights are carried out to ensure that the ILS is functioning properly and normally have to take place during quiet periods such as the night when there are no other aircraft taking off or landing. Currently, any landings or take offs by ILS calibration aircraft that are classified QC/0 are exempt from the restrictions. Following consideration of this matter, we have decided that all flights that are required for essential airport safety checks should continue to be exempt from the restrictions and should not count towards the movement limits.
- 4.17 For light prop movements in general, given the small number of these aircraft in operation (see **Table 3** below) and the difficulty in classifying them for noise purposes¹⁷, the government does not believe it is proportionate to devise a separate classification system, but we do want to ensure these aircraft are treated consistently under the restrictions. We have therefore decided that while these aircraft should

¹⁷ There is no formal process for classifying these types of aircraft. The reason for this is twofold. Firstly, the noise certification levels of these aircraft can differ due to the different test demonstration procedures required by the older ICAO Chapter 6 and current Chapter 10 standards, and this can alter the assigned QC classification. Secondly, the Chapter 6 and Chapter 10 noise levels are Lmax values measured in A-weighted decibels (dBA) whereas the metric used for the QC classification scheme is Effective Perceived Noise Decibels (EPNdB), since it was designed to be compatible with the Chapter 3 noise standard that applies to jet and large propeller-driven aircraft (which is measured in EPNdB). There is no straightforward way of accounting for both of these factors and although the CAA has to date taken a pragmatic approach and based the classifications for light props on their unadjusted dBA levels, this can lead to inconsistent classifications

count towards the movement limits under the restrictions, they should remain exempt from the QC limits and be classified as QC/0.

Table 3 – Number of light prop movements during the night quota period in winter 2015/16 and summer 2016

LHR	LGW	STN
2	18	46

Source: CAA Data

5. Movement limits

Proposal

- 5.1 In our consultation we proposed to maintain the status quo in terms of movements. This meant keeping the number of movements allowed the same at Heathrow (2,550 in the winter and 3,250 in the summer) and Gatwick (3,250 in the winter and 11,200 in the summer), while making an adjustment to Stansted's movement limits, to accommodate the current number of exempt flights, in response to the changes to the QC system which we proposed. This adjustment would have increased Stansted's movement limits from 5,000 to 5,600 in the winter and from 7,000 to 8,100 in the summer.

Summary of consultation responses

- 5.2 We asked the following questions in our consultation about movement limits at the three airports:

Q4a. How strongly do you agree or disagree with the proposal for movement limits to remain unchanged at Heathrow?

Q4b. Do you have any additional comments on our proposal for Heathrow's movement limit?

Q5a. How strongly do you agree or disagree with the proposal for movement limits to remain unchanged at Gatwick?

Q5b. Do you have any additional comments on our proposal for Gatwick's movement limit?

Q6a. How strongly do you agree or disagree with the proposal to raise Stansted's movement limits to reflect the current number of exempt aircraft in operation?

Q6b. Do you have any additional comments on our proposal for Stansted's movement limit?

- 5.3 The consultation responses to these questions are summarised by airport below.

Heathrow

- 5.4 A majority of respondents disagreed with our proposal that movement limits at Heathrow remain unchanged and called for either an outright ban or a steady reduction in movement limits. Several responses also mentioned the six and a half hour ban on scheduled night flights that the government expects as a condition on a third runway at Heathrow, and either questioned why this could not be put in place now, or wrongly assumed it was already in place.
- 5.5 Responses from the public, communities, and public bodies were largely of the same opinion that the proposal did not go far enough to protect communities. Many of these pointed towards the increasing evidence of the health impacts that can be caused by night flights and called for a wider range of options to be looked at. There

were also responses that mentioned the number of unscheduled flights that took place which are awarded dispensations and do not therefore count towards the movement limits. There were also responses from residents around Gatwick which stated that Heathrow night flights interacted with Gatwick traffic which meant that night flights to the latter airport were at a lower altitude than they might otherwise be.

- 5.6 Most industry responses generally accepted the case for movement limits remaining the same, though some did note that the limits had not changed in several decades despite improvements in the noise performance of aircraft and, as a result, airlines had not shared in any of these benefits from quieter aircraft. Industry responses cited the importance of night flights to the economy through connectivity and allowing next day delivery of high value goods. Some responses called for an increase in night movements, or suggested there should be flexibility within the regime to adapt to changing economic situations, such as increasing movement limits to adapt to any economic downturn that may arise after the UK leaves the European Union.
- 5.7 Other responses noted that by not implementing an increase in movement limits to account for exempt aircraft as was proposed at Stansted, this would be a further constraint at the airport. Finally, some responses suggested that maintaining the movement limit could negatively impact on connectivity and that there was a case for considering options such as schedule smoothing, which would allow more night flights at the end of the night period but would reduce the need for both runways to be used immediately after 0600 - therefore offering greater respite for communities under what would be the flight path for the departing runway.

Gatwick

- 5.8 A majority of respondents were against the movement limit remaining unchanged at Gatwick. There were a large amount of responses stating that no night flights should be allowed at all and there was a response re-submitted approximately 800 times by individuals which called for a gradual reduction in night flights so that they were phased out completely by 2030. Responses also noted that Gatwick was still significantly under-utilising its winter movement limit and that as a minimum this should be reduced to reflect current usage, and that the use of carryover from the winter season should be restricted.
- 5.9 Responses pointed out that Gatwick has a large number of night flights, especially in the summer, compared to other airports and argued that there was little economic justification for this number as they are mostly short haul tourist flights and the airport is not used for freight purposes. There were also a large number of comments raising the fact that because Gatwick was surrounded by more rural communities with lower background noise levels on average than Heathrow, the impacts of aircraft were more acutely felt.
- 5.10 Industry responses highlighted the importance of night flights to the operation of the airlines based at Gatwick. While many agreed with movements remaining the same, there were concerns raised that there was no uplift to reflect the fact that certain aircraft would no longer be exempt. It was also noted that maintaining the existing night movement limits would restrict the ability of Gatwick to attract new long haul routes to the airport in coming years and that an annual limit may be more efficient as well as more transparent for communities. Along with this, several of the themes that were raised in response to the proposals on Heathrow's movement limit were also included in response to these questions, including the need to allow adjustments mid-regime if there was an economic slowdown after exiting the European Union.

Stansted

- 5.11 A majority of respondents disagreed with this proposal, especially individuals from local communities.
- 5.12 Individuals and groups representing local authorities disagreed that Stansted's limit should be adjusted to accommodate all currently exempt aircraft and that communities would not share in any benefits as a result of such a change. As at Gatwick, many responses focused on the rural setting of the airport which it was argued made the impacts of aircraft noise more severe. There were calls for night flights to be phased out completely by 2030 and for movement limits to reflect the current situation - especially in winter, and for the rules on seasonal carryover to be tightened or restricted altogether. Many responses also argued for the night period to cover an eight hour period from 2300 to 0700.
- 5.13 Industry responses were more mixed. Most reiterated their opposition to the changes proposed to the QC system, but were clear that if these did go ahead that it was necessary for there to be a corresponding adjustment to the movement limit. One response cited this as a good example of a 'balanced approach'. Other responses were less supportive, arguing continuing to constrain Stansted's movements would negatively impact on passenger and freight services and would also limit the ability of the airport to grow in the day as it would not be viable for low-cost carriers to base their aircraft there. These responses stressed the importance of night flights to the business models of low cost carriers and 24 hour freight hub operations. It was again raised that the combined effect of changes at Stansted would penalise those who have already invested in quieter aircraft. The fact that Stansted is limited to fewer night flights in the summer and on an annual basis compared to Gatwick, despite fewer people being recorded within the airport's noise contours, was also raised in some responses.

Government response

- 5.14 After considering all of these responses, we will as proposed in our consultation be maintaining the status quo in terms of movements at the three airports. While the government expects a six and a half hour ban on scheduled night flights as a condition on a third runway at Heathrow, we agree with the Airports Commission view that there is no case for further restrictions while the airport remains capacity constrained, as this would damage the UK's connectivity and constrain other benefits to the UK of night flights. We will not however prevent a ban being introduced before a new runway is operational, if an agreement is reached to do so.
- 5.15 We also do not consider it appropriate to make any changes to Gatwick's movement limits at present. We acknowledge that Gatwick has a large amount of night flights compared to other airports and that the number of people affected by night noise slightly increased since the restrictions were last reviewed, but reducing the number of night flights would add to the capacity constraints that are already facing the south east and would reduce choice for passengers by making low-cost air travel less viable. We will therefore maintain the existing movement limit, including the current winter limit. This, along with our changes to noise quota limits will ensure we reap the benefits of a strong aviation sector over the coming years while continuing to limit or reduce the number of people significantly affected by aircraft noise at night, through ensuring that aircraft cannot get any louder and that a proliferation of movements by exempt aircraft is prevented.
- 5.16 It is also appropriate to adjust Stansted's movement limits in order to accommodate the number of movements of aircraft that have until this point been exempt from the

restrictions. Airlines have planned their operations at Stansted under the rules that have been in place for many years and failing to make this adjustment would mean we would not achieve the aspect of the environmental objective concerned with maintaining the existing benefits of night flights. While this will not reduce Stansted's movements limits to below the airport's current level of movements, the combination of the changes we are proposing will mean communities do experience a benefit through being exposed to fewer flights than would otherwise be expected if no action was taken to prevent a proliferation of exempt aircraft. This is therefore the only way in which the environmental objective we have decided on can be achieved at Stansted.

- 5.17 We will recognise any airport-specific agreement on night flights Stansted can reach with its communities through the local planning authority during the course of the next regime, providing there is suitable consultation and the Balanced Approach is followed.
- 5.18 Regarding the prospect of potentially reviewing these limits early to make changes before the end of the next regime, as explained earlier, the requirements that would have to be met when considering changes to the restrictions under current rules would mean this would not be a realistic option. We will however not prevent more airport-specific arrangements being put in place at any of the airports if there are appropriate opportunities to do so.
- 5.19 On the subject of carry-over and annual limits, which were raised by large numbers of respondents from both industry and communities at Gatwick and Stansted, it is important that airports have flexibility to manage their limits to respond to unforeseen circumstances along with variations in the length of summer and winter seasons in different years and changes in demand associated with the season in which Easter falls. While the option of an annual limit has been considered for previous regimes, the government believes that the current carry-over arrangements offer suitable flexibility whilst providing communities more certainty on the number of flights that can take place within a given period than under an annual limit.
- 5.20 Finally, with regards to the use of dispensations for emergencies, disruptions or delays under certain scenarios, the government realises that these can be disturbing to individuals who live around airports, especially when they occur in a period when no flights are expected. While the number of dispensations has noticeably risen at Gatwick in recent years and has remained at a similar level at Heathrow, the government has not received any evidence that these are being used inappropriately by airports and considers that this number reflects the limited capacity at these airports which exacerbates the impact of disruption. We will continue to monitor the use of dispensations and we also intend to carry out further work to consider whether the current process for issuing dispensations is appropriate, including the criteria under which they are allowed. If we were to determine that the current guidance on dispensations is not being complied with, we will consider how we can ensure we can enforce their correct use.

6. Noise quota limits

Proposal

- 6.1 In our consultation, we proposed to set noise quotas at each airport at a level that would incentivise the use of quieter aircraft. As a starting point, we proposed reductions at Heathrow and Gatwick that would bring noise quotas down to a level based on the average QC rating of an aircraft currently operating at each airport. By setting noise quotas based on the average QC per movement multiplied by the seasonal movement limits, we could ensure that the average noise from an aircraft could not increase beyond the current level if an airport was to fully utilise its movement limits. These noise quotas we proposed as a starting point are shown in **Table 4** below.

Table 4 - Current noise quota limits at Heathrow and Gatwick and those proposed in our consultation document

	Season	Current QC Limit	Proposed limit (% reduction)
Heathrow	Winter	4080	2340 (-43%)
	Summer	5100	2540 (-50%)
Gatwick	Winter	2000	1655 (-17%)
	Summer	6200	4870 (-21%)

- 6.2 At Stansted we proposed that the starting point should be the current noise quota limits. The reason for this was that unlike at Heathrow and Gatwick, where there was spare capacity in the noise quota limits, Stansted used all of its noise quota in the previous summer season. With the changes to the QC system and the adjustment we proposed to the airport's movement limit, it would have to accommodate all of the additional movements that would count towards the limit without any increase in noise quota - which would incentivise the use of quieter aircraft.
- 6.3 In our consultation, we also stated that we would consider further reductions over the course of the regime to further incentivise the use of quieter aircraft. We gave hypothetical examples of a 20% reduction over the course of the regime at each airport, though made clear that the final noise quotas at each airport would be set at a level that did not place too large a constraint on the airports operations and that enabled the existing benefits of night flights to be maintained.

Summary of consultation responses

6.4 We asked the following questions in our consultation about noise quota limits at the three airports:

Q7a. How strongly do you agree or disagree with our proposals to encourage the use of quieter aircraft at Heathrow?

Q7b. Do you have any additional comments on how you feel noise quotas can best be set in order to encourage the use of quieter aircraft at Heathrow?

Q8a. How strongly do you agree or disagree with our proposals to encourage the use of quieter aircraft at Gatwick?

Q8b. Do you have any additional comments on how you feel noise quotas can best be set in order to encourage the use of quieter aircraft at Gatwick?

Q9a. How strongly do you agree or disagree with our proposals to encourage the use of quieter aircraft at Stansted?

Q9b. Do you have any additional comments on how you feel noise quotas can best be set in order to encourage the use of quieter aircraft at Stansted?

6.5 The consultation responses to these questions are summarised by airport below.

Heathrow

6.6 A majority of respondents agreed with our proposals for noise quota limits to encourage the use of quieter aircraft at Heathrow. There was a large difference however in the views of industry and communities.

6.7 Communities supported the reductions in noise quota, but felt that reducing to current usage would not encourage any further reductions and that reductions should go further. The hypothetical example of a 20% reduction was cited as the minimum reduction that should be considered. Many responses also felt that the restrictions should go beyond 'encouraging' quieter aircraft and mandate this. Some responses suggested the reductions be used in conjunction with other noise mitigating measures such as restrictions on QC/2 aircraft as well as a complete operational ban on QC/4 aircraft.

6.8 Other matters raised by responses included extending the period of the night that noise quotas should apply to. Some responses stated that reclassifying the QC of aircraft based on their measured noise performance should take place. There were also some responses which stated that all aircraft were disturbing and that the number of movements was the more important issue.

6.9 Industry acknowledged that noise quotas should be reduced to some extent at Heathrow, but generally felt even the minimum reductions that were proposed were too restrictive. Particular concerns were raised about the impact that removing all headroom could have on the ability of airlines to make operational changes, including adapting to changing economic circumstances and increased passenger demand by utilising larger planes. Some responses argued that as none of the benefits of quieter aircraft were being passed on to industry, it may disincentivise airlines from investing in quieter aircraft in the future.

6.10 Some industry responses raised concerns about the method in which reductions had been calculated, and that basing the average QC value on the aircraft that operated in only the most recent year could mean new noise quotas were based on an unrepresentative year. Generally speaking industry suggested smaller reductions as being more suitable than the proposed reductions.

- 6.11 Industry responses universally stated that any further reductions beyond those that reflected current noise quota usage would not be achievable. These responses highlighted that airlines' fleet plans are developed over substantially longer time periods than the current regime and that it wouldn't be possible to adapt to the example of a 20% reduction within the next five years. It was also pointed out that the substantial reductions in noise quota usage that had taken place at Heathrow reflected the fact that airlines were already using amongst the quietest aircraft available for the routes in question. It was therefore argued that airlines would be penalised for having adopted the latest technology early to reduce the impact of night noise.
- 6.12 Responses from all stakeholders also highlighted other measures that could be taken to reduce noise in addition to, or other than, operating restrictions - such as increased landing fees for the noisiest aircraft and improved operational procedures.

Gatwick

- 6.13 A majority of respondents were supportive of the proposal to reduce Gatwick's noise quota limits but as with Heathrow, many of these felt the reductions being proposed did not go far enough. Once again there was a strong split between the views of communities and industry on this matter.
- 6.14 Community responses stated that the hypothetical example of a 20% reduction should be the minimum that should be considered. Several responses noted that the methodology we had based the reductions on would leave the winter noise limits substantially higher than the actual usage in recent years due to the large surplus in winter movements, and there were again calls to reduce the provision of carryover from the winter to summer season. There were also calls for restrictions to be placed on the noisier aircraft currently in operation, for instance by banning QC/4 aircraft.
- 6.15 As with responses for Heathrow, the industry generally felt that noise quota reductions proposed were too restrictive and that that they would have significant impacts on the airport's operations. Contrary to the points raised by communities about the large amount of surplus that would be maintained in the winter noise quota limit, it was noted even the minimum reduction proposed for the summer limit would see the noise quotas set below what the airport had used in the previous summer season. It was argued that even reducing noise quotas to a value based on current usage could restrict the ability of the airport to attract more long haul traffic due to the fact that the aircraft required to operate these routes are larger and louder than those generally already in operation at Gatwick.
- 6.16 As with at Heathrow, comments were made on the methodology used to calculate the noise quotas, noting that this was based on the aircraft that actually operated during the night rather than those scheduled to do so.
- 6.17 Regarding the further reductions in noise quotas such as the hypothetical example of a further 20% reduction, these were seen as unachievable by the industry. It was noted that the further 20% reduction was predicted to have costs associated with it in our impact assessment and that this would be contrary to the environmental objective we had proposed. Furthermore, it was highlighted that Gatwick already has the lowest average QC per movement of the three airports in question, and that there may therefore be less scope for further reductions in the coming years. Questions were also raised about whether these reductions penalised those airlines who had already introduced quieter aircraft, and if these reductions were put in place, whether airlines who had made these investments should be given priority if the airport was unable to accommodate the same level of traffic.

Stansted

- 6.18 As with responses for the other two airports, there was generally support for our proposals for noise quotas at Stansted.
- 6.19 While some responses from communities agreed with our proposal that the current noise quotas should act as the starting point for consideration of noise limits for the next regime, others queried why no reductions were being proposed as at Heathrow and Gatwick. There was again support for the hypothetical reduction of 20% and responses argued that the restrictions should go beyond 'encouraging' quieter aircraft and should require this, although other responses stated that the issue of noise quota limits was secondary to the number of movements that could take place.
- 6.20 Some respondents highlighted cargo planes as being a particular problem, as they were generally older and noisier than passenger jets. Some felt there should be further restrictions on these or on QC/4 and QC/2 aircraft in general. The impact of reverse thrust on communities near airports was also highlighted and there were calls for this to be prohibited at night, as well as for operational procedures that could improve the noise climate, such as continuous descent approaches which are not currently possible on easterly approaches due to interactions with other air traffic.
- 6.21 Industry respondents tended to call for a similar approach to be taken to noise quota limits as was proposed for movement limits, where an adjustment was made to reflect the changes to the QC system. Responses noted that Stansted used all of its noise quota in the most recent summer season and if currently exempt aircraft were to now fall within a QC/0.125 category, this would increase pressure on the limit. As with at the other two airports, it was argued that the hypothetical reductions proposed were not feasible in the time frame of the regime, especially with freighter aircraft having longer lifespans, and that large reductions could have significant impacts on the operations of the low cost and freight operations based there.

Government response

- 6.22 Despite the concerns raised by industry, the government has received no evidence to suggest that reducing limits at Heathrow and Gatwick to reflect current noise quota usage would not be achievable. We therefore continue to think it is appropriate to make these changes to ensure that the benefits that have resulted from quieter aircraft over recent years are locked in, and give confidence to communities that the average noise from an aircraft will not increase compared to current levels.
- 6.23 In response to feedback received however, we have decided to adopt a slightly different methodology to calculating the current average QC per movement. In our consultation document, the average noise quota of an aircraft was based on the noise of all aircraft that operated during the night quota period for the most recent winter 2015/16 and summer 2016 seasons. We have now decided to base this on the average noise quota of all aircraft that were scheduled during the night quota period over the three most recent winter and summer seasons. This was decided because:
- Using the scheduled data is preferable as the purpose of the restrictions are to incentivise airlines to use the quietest aircraft available, so our decision should be based on the loudness of the aircraft they actually plan to operate.
 - Using three years' worth of data means that we can be certain that any proposed limits are not based on an unrepresentative year.
- 6.24 Using this approach results in noise quota limits that are slightly higher than those we proposed in our consultation (i.e. there are slightly smaller reductions). A comparison

of the limits and percentage reductions we proposed and the final reductions is given in **Table 5** below.

Table 5 - Proposed and final noise quota limits for Heathrow and Gatwick

	Season	Current QC Limit	Consultation proposal (% reduction)	Final (% reduction)
Heathrow	Winter	4080	2340 (-43%)	2415 (-41%)
	Summer	5100	2540 (-50%)	2735 (-46%)
Gatwick	Winter	2000	1655 (-17%)	1785 (-11%)
	Summer	6200	4870 (-21%)	5150 (-17%)

6.25 While we have decided that the above limits should apply, we have decided that some of these changes should be delayed until the second year of the regime (beginning in October 2018). In order to maintain the existing benefits of night flights we want to ensure that airlines have sufficient time to adapt how their fleets are utilised and plan their schedules accordingly. As decisions on operating restrictions would usually be expected over a year before the start of the relevant season, we have therefore decided that these reductions in noise limits will take effect from the winter 2018/19 season.

6.26 And at Stansted we continue to think the current noise quota represents a suitable level given that more aircraft movements will have to be accommodated within it. This will incentivise airlines to use quieter aircraft so that they can make full use of Stansted's adjusted movement limits.

6.27 We did not receive any evidence from our consultation that enabled us to set reductions beyond these limits with any certainty that could be achieved at each airport without imposing significant costs. The final limits above however will incentivise airlines to use quieter aircraft as they will want to ensure they have sufficient headroom to adapt to any unforeseen circumstances or changes in their operations, and will ensure that aircraft do not get any louder over the course of the next regime.

7. Additional issues raised

Additional comments

7.1 Respondents were also able to provide additional comments related to the proposals within our consultation. Some of the issues raised in response to this question (Question 10 in the consultation document) that have not already been discussed included:

- **How factors were considered as part of our impact assessment.** Including that effects such as the impact of night flights on cardiovascular health or on next day efficiency were not appropriately considered. How these factors were taken into account can be found in Sections 6.1.2 and 6.1.3 of the impact assessment published alongside this Government response.
- **That no equalities assessment had been carried out.** Text outlining our approach to the equalities assessment is also included within our impact assessment (see Section 11.3).
- **The length of the consultation being shorter than was the case for previous regimes.** The length of the consultation was a consequence of the need to ensure a timely decision on the next night flights regime could be made before the restrictions expire in October. The Department for Transport also held focus groups with key stakeholders in 2016, including community representatives, as an earlier part of our consultation process and these helped to inform the policy options put forward in our consultation document.
- **The impact of night flights on environmental factors other than noise.** Our impact assessment sets out why we consider it not to be proportionate to assess the impacts on air quality or greenhouse gas emissions due to the very small contribution changes in night flights would have on these.
- **That new aircraft were now comparatively more expensive due to the fall in the value of Sterling.** There was however no specific evidence provided to indicate what the impact on this would be on fleet mix over the course of the next regime.
- **The impact of night flights and aviation generally on people suffering from electro-sensitivity.** The government is not aware of any evidence to suggest that the electro-magnetic properties associated with aircraft or airport activity is associated with adverse impacts on an individual's health. However, the Department has acknowledged in the impact assessment that night flights may have a disproportionate impact on those sensitive to noise, however, there is insufficient evidence to monetise any possible additional impacts on these groups.

Evidence received through consultation

- 7.2 Alongside the specific questions on our proposals we asked in our consultation, we also asked several questions in our impact assessment to ensure our approach for calculating the impacts of changes to the night flight restrictions was robust and made use of the latest evidence. Several of the responses to the questions in our impact assessment and consultation document raised concerns with some of the analysis in the impact assessment, in particular: the assumptions feeding into the fleet mix modelling; noise metrics and impacts; and wider economic impacts.

Fleet Mix Modelling

- 7.3 Some responses from industry highlighted that our assumption on freighter retirement age included in the consultation stage IA was too low since freighters have a much longer retirement age than commercial aircraft. This is to make their purchase economically viable given their lower utilisation. In response to this, we clarified these assumptions with the industry and have extended the default retirement age from 30 to 35 years for freighters within our fleet mix modelling.
- 7.4 Industry also wanted further clarity on the assumptions feeding into the fleet mix modelling, in particular on how aircraft are replaced when they retire and which types of aircraft are introduced into the fleet to cater for additional demand. We further clarified the fleet mix assumptions in the IA to assure stakeholders, that the fleet mix relies on evidence wherever it is available and not solely the fleet mix from the most recent season.
- 7.5 We received evidence on the expected rate at which new generation aircraft such as the A320neo and the Boeing 737Max will be incorporated into certain airlines' fleets. We did not receive enough information on specific airlines' fleets to completely update the data sets within our model, however these figures were used to sense-check the forecast growth trajectory of these types of aircraft in the fleet mix modelling and adjust them where necessary.

Noise

- 7.6 As already discussed, there were many responses voicing concerns over the validity of using the 48 dB LAeq 6.5hr contour to assess noise impacts on communities. We have already explained why the 48 dB LAeq 6.5hr contour was used for comparing the number of people affected under different options and that monetisation of health impacts considered noise levels down to 45 LAeq 6.5hr. We considered all suggestions of alternative metrics submitted as part of the consultation, but have concluded that there are no robust alternative metrics for estimating the monetised impacts of night noise.
- 7.7 Many responses, particularly from individuals and community groups, voiced concerns that the health impacts identified within the impact assessment were underestimated. Most responses however did not propose any alternative evidence beyond that in the existing qualitative discussion in the IA. There was no further evidence submitted that would have allowed additional impacts to be quantified due to issues with relevance to the night quota period or relevance to these airports in particular. As a result of these responses, we have expanded the qualitative discussion on these impacts and we have provided illustrative estimates of the change in the value of the other impacts of night noise on health where possible to illustrate the potential scale of these impacts. However, the Department's Transport Analysis Guidance does not contain an approved methodology for estimating the

change in the value of other impacts of night noise on health so these figures are given to illustrate the potential scale of impacts only.

- 7.8 The Department has a robust appraisal system for assessing new evidence related to noise exposure and will consider whether the approach for assessing the impacts of noise on health is still appropriate once the WHO's updated guidelines on environmental noise are published.

Wider Economic Impacts

- 7.9 Further qualitative evidence was submitted on the wider economic impacts of changes to the night flight restrictions. We had already recognised the importance of these impacts in the consultation-stage IA, but in response to feedback received through consultation we have expanded on the qualitative discussion included in our impact assessment. Responses from both industry and communities suggested that we also monetise wider economic impacts, but evidence submitted was either not specific enough to these airports or the night quota period, or the methodology was not robust enough to be used in the IA.
- 7.10 Suggestions as to how airlines would respond to a tightening of restrictions were made in consultation responses, primarily by airlines directly or groups representing them, but there was no consensus on an appropriate assumption to apply. Some airlines suggested they would reduce the loudest aircraft first when they reached their limits. Others suggested there were some routes that they could not move out of the night period due to the nature of demand or constraints in other countries which would mean rescheduling was not viable, or that there were other routes where it would not be possible to introduce quieter aircraft. Due to lack of a consensus from respondents, our assumption remains that all aircraft are reduced proportionally when an airport reaches its quota and movement limits.

Annex A: Relevant information

A.1 The table below details where the relevant information related to our decision on operating restrictions can be found

Information	Location in consultation
Current Inventory	
Description of the airport	See Chapter 1 of consultation document and Airports Noise Action Plans ¹⁸ .
Environmental objectives	Government response (and see Chapters 1 & 2 of consultation for previous versions)
Noise contours for the relevant previous years	Chapter 1, Chapter 2, Annex F of consultation document and airports' Noise Action Plans. For Heathrow also see 2015 noise contours. ¹⁹
Existing and planned measures to manage aircraft noise	Chapter 2 of consultation document, airports' Noise Action Plans, Heathrow Blueprint for Noise Reduction ²⁰ and Gatwick's response to Independent Arrivals Review ²¹
Forecast without noise measures	
Description of airport development	Chapter 1 of consultation document, Draft Airports NPS ²² and Airports Commission Final Report
Benefits of making additional capacity available	Airports Commission Final Report and Draft Airports NPS
Effect on noise climate without further measures	Chapter 4 of consultation document, Annex F and Impact Assessment Annex F
Forecasted noise contours	Impact assessment
Costs of not taking action to reduce the impact of increased noise	Chapter 3, Chapter 4 of consultation document and Impact Assessment
Assessment of additional measures	
Additional measures available to address noise	Impact Assessment and chapter 2 of consultation document
Impacts of the proposed measures	Impact Assessment and chapter 4 of consultation document
Reasons for preferred option	Impacts Assessment, government response

¹⁸ Heathrow Noise Action Plan

<http://www.heathrow.com/noise/making-heathrow-quieter/noise-action-plan>

Gatwick Noise Action Plan

https://www.gatwickairport.com/globalassets/publicationfiles/business_and_community/all_public_publications/aircraft_noise/gatwick-airport-limited-end-noise-action-plan-2013---2018-adopted.pdf

Stansted Noise Action Plan

<http://mag-umbraco-media-live.s3.amazonaws.com/1098/noise-strategy-and-action-plan-2014.pdf>

¹⁹ http://www.heathrow.com/file_source/HeathrowNoise/Static/Heathrow_Noise_Action_Plan_Contours_2015.pdf

²⁰ <http://www.heathrow.com/noise/making-heathrow-quieter/our-noise-strategy/blueprint-for-noise-reduction>

²¹ http://www.gatwickairport.com/globalassets/publicationfiles/business_and_community/all_public_publications/2016/gatwick---response-document-action-plan-final-31mar2016.pdf

²² <https://www.gov.uk/government/publications/draft-airports-national-policy-statement>

Non-technical summary of options	Executive Summary, Chapter 3, Chapter 4 of consultation document, Impact Assessment and government response document
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Annex B: Glossary

Airports Commission	An independent commission set up in 2012 to examine the need for additional UK airport capacity and recommend to government how this can be met in the short, medium and long term.
Balanced Approach	Guidance developed by ICAO to address aircraft noise problems at individual airports in an environmentally responsive and economically responsible way
CAA	Civil Aviation Authority
Carry Over (and overrun)	Carry-over and overrun arrangements give the airport flexibility to defer or bring forward movements and quota allowance from one season to the next.
Certification Procedure	The ICAO aircraft noise certification procedure for subsonic aircraft over 5,700kg requires three separate noise measurements to be made at approach, lateral and flyover locations. The three certificated noise levels (measured in EPNdB) are determined within tight tolerances and normalised to standard atmospheric conditions.
Co-ordinated airport	An airport whose total capacity (runway, taxiways, aircraft parking, departure gates, passenger terminals, security and border facilities) is shown to be insufficient to meet demand from all actual or planned airline operations. A co-ordinator is appointed to allocate slots to airlines and other aircraft operators using or planning to use the airport, as a means of managing available capacity.
dB	Unit of relative sound level or changes in sound level

dBA	Unit of sound pressure level measured on the A weighted scale, i.e. as measured on an instrument that applies a weighting to the electrical signal as a way of simulating the way a typical human ear responds to a range of acoustic frequencies.
Designated airport	Any airport designated for the purposes of section 78 of the Civil Aviation Act 1982 which allows the Secretary of State to require action to be taken to avoid, limit or mitigate the effect of noise from aircraft. Heathrow, Gatwick and Stansted are the three airport currently designated for these purposes
Environmental Objective	An objective for an airport within the definition at Regulation 2 of The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003 (SI 2003/1742).
EPNdB	Effective Perceived Noise Decibels. A specialised noise unit used for aircraft noise certification tests.
Exempt Aircraft	Under the current restrictions, aircraft certified as quieter than 84 EPNdB are exempt from the night flight restrictions. This means they do not count towards movement or noise quota limits.
ICAO	International Civil Aviation Organisation.
ILS	Instrument Landing System. A precision runway approach aid based on two radio beams which together provide pilots with both vertical and horizontal guidance during an approach to land
Leq	A measure of long term average noise exposure. For aircraft it is the level of a steady sound which, if heard continuously over the same period of time, would contain the same total sound energy as all the aircraft noise events. Leq is most commonly used with the A-weighted scale (as measured on an instrument that applies a weighting to the electrical signal as a way of simulating the way a typical human ear responds to a range of acoustic frequencies), expressed as LAeq. LAeq

6.5hr night is used in this consultation to refer to the noise levels in the period of the night, 2330-0600, that movement and noise quota limits apply to.

Lmax	The maximum A-weighted sound level (in dBA) measured during an aircraft flyby
Lnight	Usually, the eight hour Leq average noise level from a specified source or sources as defined in Directive 2002/49/EC, in the UK defined to cover 2300-0700 local time; sometimes defined over other periods at night.
Movement Limit	The number of movements allowed during a season between 2330 and 0600 (the Night Quota Period).
Noise Contour	Aircraft noise maps which show lines joining points of equal noise to illustrate the impact of aircraft noise around airports.
Night Period	Defined as 2300-0700 local time.
Night Quota Period	Defined as 2330-0600 local time unless the context indicates otherwise.
Noise Quota (limits)	An aggregation of quota count for individual aircraft, used to define a seasonal limit or usage by comparison with the applicable limit.
Operating Restriction	Noise related action that limits or reduces access of civil subsonic jet aeroplanes to an airport. It includes operating restrictions aimed at the withdrawal from operations of marginally compliant aircraft at specific airports as well as operating restrictions of a partial nature, affecting the operation of civil subsonic aeroplanes according to time period

Quota Count (or QC)	The weighting attributed to the arrival or departure of a specified aircraft type by reference to its certificated noise performance, divided into 3EPNdB bands.
Slot	Airport slots are rights allocated to allow airlines and other aircraft operators to schedule a landing or departure at an airport during a specific time period. Slots are allocated at 'Level 3 – Coordinated Airports'.
webTAG	The Department for Transport's guidance on appraising transport schemes. TAG Unit A3 includes an approach to analysing the possible health effects associated with aviation noise, ²³
WHO	World Health Organization. Published the 1999 'Guidelines for Community Noise' and the 2009 'Night Noise Guidelines for Europe'.

²³ <https://www.gov.uk/government/publications/webtag-tag-unit-a3-environmental-impact-appraisal-december-2015>