



Gatwick Airport Northern Runway Project

The Applicant's Response to Actions
ISH 8: Noise

Book 10

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1 Introduction

1.1.1 This document provides the Applicant's response to the actions arising from Issue Specific Hearing (ISH) 8 in relation to Agenda Item 6: Noise. The actions relevant to the Applicant are as follows:

| Action No. | Action | Deadline |
|------------|--|------------|
| 13 | Provide revised noise envelope assessment. | Deadline 6 |
| 14 | How much quieter would the updated fleet be between 2019 and 2029 in dB for the day and night time? | Deadline 6 |
| 15 | Set out measures that Gatwick would put in place to ensure any predicted noise envelope breach did not take place. | Deadline 6 |
| 16 | Programme for outputs from noise topic working group being submitted into Examination | Deadline 6 |
| 17 | Submit Gatwick noise insulation survey results | Deadline 6 |

1.1.2 The below sections provide the Applicant's response. For actions which require a more detailed response, a reference to the appropriate document is included.

2 Action Point 13

2.1.1 **The Examining Authority has asked the Applicant to provide a revised noise envelope assessment. The following response is provided.**

2.1.2 The Applicant has submitted a revised version of **ES Appendix 14.9.7: The Noise Envelope** (Doc Ref. 5.3 v3) at Deadline 6.

2.1.3 The only change is to the areas of the day and night noise contour area limits in the first and second Noise Envelope periods in paragraphs 6.1.8 and 6.1.9 of **ES Appendix 14.9.7: The Noise Envelope** (Doc Ref. 5.3 v3) which are as follows:

6.1.8 The Noise Envelope for the NRP is set out below:

1st Noise Envelope Period: From commencement of dual runway operations to the end of the 1st Noise Envelope period

By the end of the first year after opening of the NRP, the area enclosed by the 92 day summer season average mode noise contours for the Airport shall not exceed:

- L_{eq} 16 hour day 51 dB 135.5 km² ~~146.7~~
- L_{eq} 8 hour night 45 dB 146.9 km² ~~157.4~~

2nd Noise Envelope Period: From the end of the 1st Noise Envelope Period for the period of 5 years

6.1.9 Nine years after the opening of the NRP or by the end of the year when annual commercial ATMs reach 382,000 (whichever is the sooner), the area enclosed by the 92 day summer season average mode noise contours for the Airport shall not exceed:

- L_{eq} 16 hour day 51 dB 119.4 km² ~~125.7~~
- L_{eq} 8 hour night 45 dB 134.6 km² ~~136.1~~

2.1.4 The diagram illustrating the Noise Envelope first and second periods below these limits has also been adjusted within the document. As a consequence of the reduction in the noise envelope contours amendments will also be required to reduce the extent of the noise insulation inner and outer zones, to correlate with the Noise Envelope Period 1 noise envelope contours. This update will be made to **ES Appendix 14.9.10: Noise Insulation Scheme** [[REP4-017](#)] at a later deadline.

2.1.5 An assessment of the effects associated with the Project operating with a Noise Envelope based on the Updated Central Case is provided in the **ES Addendum - Updated Central Case Aircraft Fleet Report** [[REP4-004](#)].

3 Action Point 14

3.1.1 **The Examining Authority has asked the Applicant how much quieter would the updated fleet be between 2019 and 2029 in dB for the day and night time? The following response is provided.**

- 3.1.2 As the fleet transitions and Next Generation aircraft replace current generation aircraft the overall noise levels will reduce. However, the extent to which noise levels from Next Generation aircraft are quieter than current generation aircraft is greater during departure than during arrival operations (see for example Table 2.1.1 in **ES Appendix 14.9.2 Air Noise Modelling** [[APP-172](#)]). This is because the noise reductions being achieved in Next Generation aircraft are mainly due to quieter engines which dominate total noise emissions more on departure than arrival when engine power is lower and airframe noise is more significant. So, as the fleet transitions the noise reduction experienced on the ground will vary from location to location depending on the mix of departures and arrivals overhead.
- 3.1.3 To give an indication of how noise levels in general reduce in the baseline from 2019 to 2029 we can look at the baseline noise contours for the Project produced by ERCD and how their areas reduce. The areas of the 2019 baseline contours are given in the first column of Table 3.1 of **ES Addendum - Updated Central Case Aircraft Fleet Report** [[REP4-004](#)] as follows
- $L_{eq\ 16\ hr\ 51dB\ 2019\ baseline} = 136\ km^2$
 - $L_{eq\ 8\ hr\ 45dB\ 2019\ baseline} = 159.4\ km^2$
- 3.1.4 The areas of the baseline 2029 contours are not given directly in this report, but can be calculated by subtracting the increases due to the Project given in column 2 of Table 3.3 from the area with the Project given in column 2 of Table 3.1 as follows:
- $L_{eq\ 16\ hr\ 51dB\ Updated\ Central\ Case\ fleet,\ 2029\ baseline} = 132.8 - 6.2 = 126.6\ km^2$
 - $L_{eq\ 8\ hr\ 45dB\ Updated\ Central\ Case\ fleet,\ 2029\ baseline} = 148.9 - 1.8 = 147.1\ km^2$
- 3.1.5 The rule of thumb from observing the relative areas of contours, referred to by ERCD, is that a noise change of 1dB increases contour area by about 20%. For day and night the baseline noise contour areas reduce by about 7% and 8% indicating an average noise reduction of approximately 0.3dB and 0.4dB respectively.
- 3.1.6 The 2029 baseline includes approximately 6% growth over 2019 by day and no growth at night (see Table 14.7.1 in **ES Chapter 14: Noise and Vibration** [[APP-039](#)]). This by itself increases overall average L_{eq} noise levels in the day by about 0.2dB with no change at night, which accounts for the slightly smaller reduction in average baseline noise level in the day than at night.

- 3.1.7 It should be noted that these estimates relate to an average location around each of the day and night LOAEL contours of interest to the Noise Envelope, and noise reductions in particular locations will vary around these averages. Also, following 2029 as the fleet continues to transition, these baseline noise reductions increase and offset growth to a larger extent.

4 Action Point 15

- 4.1.1 **The Examining Authority has asked the Applicant to set out measures that Gatwick would put in place to ensure any predicted noise envelope breach did not take place. The following response is provided.**

- 4.1.2 Further to the hearing at which the noise envelope and how this is proposed to function was discussed, in addition to queries regarding what measures are available to the Applicant to address any breach of a noise envelope contour areas, the Applicant has produced an explanatory paper which details key considerations in relation to **ES Appendix 14.9.7: The Noise Envelope** (Doc Ref. 5.3 v3) at **Appendix A** to this document. This includes, inter alia, the controls that will be secured and the measures that the Applicant may put in place to address a forecast breach to prevent an actual breach from arising.

5 Action Point 16

- 5.1.1 **The Examining Authority has asked the Applicant to submit a programme for outputs from noise topic working group being submitted into Examination. The following response is provided.**

- 5.1.2 The Applicant is in discussion with the Joint Local Authorities and the noise Topic Working Group is likely to take place between 16 and 18 July. The group will discuss the JLAs' comments on the Noise Insulation Scheme as set out at Section 3 of the JLAs' **Response to Deadline 4 Submissions** [[REP5-094](#)]. The Applicant will update **ES Appendix 14.9.10 Noise Insulation Scheme** [[REP4-017](#)] and submit to the Examining Authority at Deadline 8 following those discussions.

6 Action Point 17

- 6.1.1 **The Examining Authority has asked the Applicant to submit Gatwick noise insulation survey results. The following response is provided.**

- 6.1.2 The Gatwick Airport Survey of Noise Insulation Scheme Users, 2019 has been included at Appendix B to this document. The survey comprised a questionnaire sent to over 1,000 homes who had taken up the scheme at that time, analysis of their views and recommendations to improve the scheme. The findings and recommendations of this survey, along with observations from schemes developed for other airports, were used to develop the **Noise Insulation Scheme** [\[REP4-017\]](#) for the Project.

APPENDIX A



Gatwick Airport Northern Runway Project

Appendix A: Note on how the Applicant will plan to stay in the Envelope and why this will be effective

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1 Introduction

- 1.1.1 This note has been produced in connection with ISH8 in respect of noise and the discussion in respect of **ES Appendix 14.9.7: The Noise Envelope** (Doc Ref. 5.3 v3) (the "**Noise Envelope**"). It sets out key considerations in relation to the Noise Envelope, including why any breach of the Noise Envelope is considered to be highly unlikely to occur when taking into account the robust future forecasting nature of the Noise Envelope process, and what the measures could be which would be utilised to prevent an anticipated future breach or an actual breach of the Noise Envelope.
- 1.1.2 The Noise Envelope will impose area contour limits for air noise, and it will be necessary for the airport to schedule movements such that noise emissions remain within those. In undertaking this exercise, the Applicant has proposed five year future forecast reporting (in addition to the reporting of actual performance) (see paragraphs 7.1.5 and 7.1.6 of the Noise Envelope).
- 1.1.3 By taking this approach the Applicant will be providing its best understanding of airport operations for the future five year period, which will be updated year on year. That forecasting will be reviewed against annual actual performance year on year by the CAA (in a role of independent reviewer with the specialist expertise to best perform that role (see paragraph 7.1.7 – 7.1.11 of the Noise Envelope)), to verify and improve its accuracy, and this will ensure:
- a. visibility that the airport has scheduled within its limits **and** is performing as forecasted;
 - b. visibility of the margin of any error there has been between forecast and actual noise performance; and
 - c. visibility of whether the airport needs to do more to ensure it will remain in compliance, and what it will be doing (see fourth bullet of paragraph 7.1.6 of the Noise Envelope).
- 1.1.4 This note will next explain the processes that are already undertaken at Gatwick to plan its capacity on a seasonal basis, to assist with the explanation of how Gatwick's Noise Envelope will work in practice and ensure a robust and effective level of management and oversight by a range of stakeholders.

2 Co-Ordinated Airports: The Statutory Slot Allocation Process

2.1 Overview

- 2.1.1 An airport slot is a permission to use the airport infrastructure (runway, terminal, apron, gates, etc.). These are necessary to operate an air service at an airport on a specific date and time for the purpose of landing or take-off. The allocation of slots between air carriers (a 'slot allocation') is a capacity planning tool. Its purpose is to ensure, where airport capacity is scarce, that available landing and take-off slots are used efficiently and distributed in a neutral, non-discriminatory and transparent way. The allocation of slots at a co-ordinated airport is a process which is controlled by relevant law.
- 2.1.2 The relevant law comprises:
- a. EU Regulation 95/93 on common rules for allocation of slots at Community Airports (the "**EU Slot Regs**")
 - b. The Airports Slot Allocation Regulations 2006, which transpose the EU Slot Regs
- 2.1.3 Slot allocation is only regulated at 'co-ordinated airports'. These airports have insufficient capacity to meet all actual and planned demand. Rules apply to both the maintenance of existing slots and to the allocation of any new or unused slots. In the UK these are the main London airports (Heathrow, London City, Gatwick, Stansted and Luton), Manchester and Birmingham. Bristol is co-ordinated from 23:00 to 07:00 in summer seasons.
- 2.1.4 One of the fundamental principles of the slot allocation rules is that allocation is undertaken by an independent slot coordinator (Art. 4 of the EU Slot Regs) – for UK airports this is Airport Coordination Limited (ACL). The UK Civil Aviation Authority (CAA) and Department for Transport (DfT) maintain an arms-length relationship with ACL. They have no direct involvement in the slot allocation process, per the Airports Slot Allocation Regulations 2006.
- 2.1.5 While ACL is funded by UK airlines and airports, it is legally required to act in a neutral, transparent and non-discriminatory way and has a quorum of independent directors on its Board. Slots are allocated by ACL, twice yearly, for the summer and winter season at coordinated airports.
- 2.1.6 'Historic rights' entitle an airline to continue using the same slot in the next scheduling period, provided that it has used that slot for at least 80% of the previous period. This is known as the 'use it or lose it' rule (Art. 8 of the EU Slot Regs).

2.1.7 Accordingly, it is important that the number of slots which are allocated is controlled on a forward-looking basis, so that there is not an over allocation which results in a breach of any of the Noise Envelope limits.

2.2 Co-Ordination Parameters and Process of Slot Allocation

2.2.1 The managing body at each co-ordinated airport shall determine the parameters for slot allocation bi-annually in accordance with Article 6 of the EU Slot Regs.

2.2.2 'Co-ordination Parameters' are defined by the EU Slot Regs to mean "*the expression in operational terms of all the capacity available for slot allocation at an airport during each coordination period, reflecting all technical, operational and environmental factors that affect the performance of the airport infrastructure and its different sub-systems.*"

2.2.3 Article 6 of the EU Slot Regs requires:

- a. all relevant technical, operational and environmental constraints as well as any changes thereto are to be taken into account;
- b. the exercise of determining the co-ordination parameters is to be based on an objective analysis of the possibilities of accommodating the air traffic, taking into account the different types of traffic at the airport, the airspace congestion likely to occur during the coordination period and the capacity situation;
- c. for the parameters to be communicated to the airport co-ordinator in good time before the initial slot allocation takes place for the purpose of scheduling conferences.

2.2.4 The process of slot allocation is detailed at Article 8 of the EU Slot Regs. It is through Article 8(2) that the 'use it or lose it' rule applies, and airlines retain slots used 80% of the time during the scheduling period for which it has been allocated. Other available slots within the coordination parameters are allocated to the slot pool, and series of slots are allocated from the slot pool to applicant carriers as permissions to use the airport infrastructure for the purpose of landing or take-off for the scheduling period for which they are requested.

2.2.5 In a situation where all slot requests cannot be accommodated to the satisfaction of the air carriers concerned, preference shall be given to commercial air services and in particular to scheduled services and programmed non-scheduled air services. In the case of competing requests within the same category of services, priority shall be given for year-round operations.

2.2.6 The consequence of this is that where slots are not available in the slot pool, they are not allocated. This provision expressly does not apply to historic slots, which

can be retained by airlines where they are used for the required 80% of the time. As such, if the number of historic slots exceeds available capacity, ACL does not have the legal powers to address this from the EU Slot regs. In those circumstances, airlines could not be compelled to give up slots, but discussions could take place to voluntarily agree this with them. It should be noted that at no point in the operation of the airport to date have all slots been taken through historic rights, meaning there have always been slots available in the slot pool and flexibility to remain within capacity limits.

- 2.2.7 In allocating slots ACL is required to take into account additional rules and guidelines established by the air transport industry world-wide or Community-wide as well as local guidelines proposed by the co-ordination committee and approved by a competent body responsible for the airport in question, provided that such rules and guidelines do not affect the independent status of the co-ordinator, comply with Community law and aim at improving the efficient use of airport capacity.
- 2.2.8 Specific co-ordination parameters can be applied in relation to slots when they are allocated, including at the request of the airport, to influence the manner in which slots are available, for example allocating them on the basis that they can only be used by ICAO Chapter 14 aircraft (a 'noise efficient slot'). However, such co-ordination parameters are not capable of withdrawing historic rights and they are also not capable of preventing historic rights from coming into existence. How a breach in connection with historic rights would be addressed in the unlikely circumstances that arose is addressed later in this summary document.

2.3 Capacity Planning and Seasonal Declarations at Gatwick Airport

- 2.3.1 Gatwick is designated as a fully co-ordinated airport i.e. it is capacity constrained and without imposing limits on the number of aircraft which can operate from the airport, the capacity of the airport would be exceeded. Gatwick therefore must plan capacity at the Airport to be confident it will be within the relevant capacity constraints and the business will perform to the required level.
- 2.3.2 Capacity planning begins each year with the Business Plan. The Business Plan covers a period of five years, which is the same as the proposed forecasting period for the noise envelope. The Applicant's business planning exercise considers the available runway capacity, and other key operational performance constraints such as terminal capacity. The business plan must achieve an acceptable level of operational performance of the Airport and for carriers operating from the Airport, which ensures a successful business operation.

- 2.3.3 When undertaking the business planning process the Applicant starts by creating a demand driven forecast which uses a combination of business knowledge, long term contacts and commercial conversations. That demand is forecasted including aircraft size and flight time. That information is then run through a capacity model which tells the Applicant if that capacity is operable or if it causes issues in a specific area i.e. stands, check- in, immigration etc.
- 2.3.4 Based on those results the Applicant has several different options to manage the amount of available capacity in the future period. Currently this would include operational solutions, investment in infrastructure, new processes etc. There are also commercial solutions like trying to get an airline to operate another type of aircraft or at a different time. A last solution would be to decide to not include the airline in the future plan, where there is not sufficient capacity for it at the time.
- 2.3.5 Last summer for example the Airport had aircraft in the Business Plan but decided not to release a slot to enable that operation given some of the on time performance issues faced and the need to ensure sufficient headroom for the airport to perform to the level the business requires.
- 2.3.6 Subject to compliance with the Noise Envelope (and other capacity constraints which ensure acceptable standards for the Airport's performance) the Airport has the ability to decide whether or not to release slots in each capacity declaration.
- 2.3.7 Once the Applicant has arrived at a position on the airport's capacity for the relevant season, it will provide information to ACL who are the slot co-ordinator to agree a seasonal declaration, including through the co-ordination committee process. In arriving at that position, the Applicant will consult with NATS and ACL, and the three parties will agree the capacity declaration before this is formally issued by the Applicant and presented to the airlines. This process could result in the declaration being altered should it be identified through discussion that a capacity issue may arise.
- 2.3.8 The seasonal declaration is then made by the Applicant in consultation with the Co-ordination Committee. ACL is responsible for administering the allocation of that capacity within the agreed declared limits. These limits must be defined in such a way that they can be implemented through ACL's Online Coordination System (OCS). For example hourly and 15 minute runway ATM limits, and Hourly / 2-hourly Terminal passenger limits with load factors applied to scheduled seats.
- 2.3.9 The declared scheduling limits are provided in a document format and published on the ACL website.

- 2.3.10 Once the seasonal capacity declaration has been provided by the Applicant to ACL, which for the following summer season takes place in June annually, the seasonal declaration is considered by the Coordination Committee. The Coordination Committee comprises representatives of Gatwick airlines, ATC (NATS), the Gatwick Coordinator (ACL) and Gatwick Operations.
- 2.3.11 In consultation with the Coordination Committee, the airport presents the forecast demand and modelled operational performance resulting from a given declaration. On the runway, this is modelled runway holding times on a Busy Day, and in Terminals it might be modelled queuing times. These must be within acceptable standards. Operational constraints will be taken account of in the modelling.
- 2.3.12 The input ACL provide in formulating the declaration is to collate the airline wish list of demand i.e., what new demand the airlines would want to schedule in the coming season. This is then combined by ACL with the historic demand. The Applicant then determines how much of this demand it can accommodate through changes to declared limits without compromising operational performance / environmental limits. The Applicant and NATS do this through simulation modelling of the ACL schedule.
- 2.3.13 The Applicant consults with the Co-ordination Committee initially to agree how this assessment is undertaken and then to present the modelling results and justification for a proposed change to the declaration. If the airlines do not agree with the findings, the Airport may take this on board and may adjust its declaration, as the Applicant did last year in leaving the declaration unchanged. Ultimately, the airlines can call on the DfT if they feel that the airport is unjustified in making a capacity declaration. The Airport must demonstrate that it is managing its capacity in a responsible manner.
- 2.3.14 In September, the details of capacity are released for the following Summer. So, for example, in September 2024 capacity will be declared for Summer 2025.
- 2.3.15 Between September and January, ACL work with Airlines to achieve a final confirmation of slots by January.
- 2.3.16 This is undertaken in accordance with an internationally regulated process. Airlines submit an initial submission request for slots that they want in that season. ACL than use allocation criteria (primary and secondary) to do an initial allocation which distributes the slots for that season. The airlines then have time to respond to that initial allocation. There is a slot conference where schedule

tweaks and additional requests can be made. Airlines then have to return the slots they will not use to the slot pool.

2.3.17 The above explanation evidences the thorough levels of planning, control and oversight which the Airport's business plan entails and is subject to. It is of absolute priority to the Airport that it operates successfully, to the standards which are expected of it by airlines and passengers, which ensures its continued excellent reputation in the market. Compliance with the Noise Envelope limits will likewise be a critical requirement to the Applicant, because the consequences of not doing so would be likely to give rise to business critical and reputational issues. It is for this reason that the Airport has chosen to align the Noise Envelope with its five year business planning. Any criticism that compliance is somehow left up to chance and not within the Airport's knowledge or control are wholly misguided, and based on a failure to understand what is proposed and how it aligns with the airport being operated in a responsible manner.

2.4 Enforcement of the Allocated Slot position

2.4.1 Without a slot an aircraft cannot fly from the airport at the relevant time.

2.4.2 There are comprehensive enforcement procedures in the Airports Slot Allocation Regulations 2006. These derive from Regulation 14, which provides that an air carrier operating at a co-ordinated airport shall not repeatedly and intentionally—

- a. operate air services at times significantly different from the allocated slots; or
- b. use slots in a significantly different way from that indicated at the time of allocation, where such use causes prejudice to airport or air traffic operations.

2.4.3 Regulation 15 of the Airports Slot Allocation Regulations 2006 provides that ACL may issue directions to relevant persons for the purpose of securing compliance by an air carrier with the duty set out in Regulation 14. Regulation 16 provides for penalties to be imposed for non-compliance with a direction requiring compliance with Regulation 14, and Regulation 17 sets out the enforcement procedure that must be followed.

3 How does the slot co-ordination and allocation process align with the Noise Envelope process?

3.1.1 In order to provide certainty on future noise levels and to evidence compliance with the applicable Noise Envelope limits, the Applicant will forecast noise levels for the future five years to confirm projected compliance with the applicable future

noise envelope limits (see paragraphs 7.1.5 and 7.1.6 of the Noise Envelope). The Applicant will also undertake annual reporting of actual noise levels, which primarily will verify the forecasting undertaken. Such reports are to be known as "Annual Monitoring and Forecasting Reports", or "AMFR". Section 7 of the Noise Envelope details these processes.

- 3.1.2 The forecasting exercise will be undertaken in lock-step with Gatwick's business planning, as explained above, which leads to the declaration of the co-ordination parameters and the allocation of available slots at the airport looking five years forward. Each will be based on the same level of forecasting and projected growth through the release of capacity over the future five-year period.
- 3.1.3 In accordance with paragraph 7.1.5 of the Noise Envelope, within each AMFR the Applicant must as a minimum provide the following information:
 - a. The previous year's actual noise contour areas;
 - b. Forecast noise contour areas for the next 5 years;
 - c. Necessary supporting information; and
 - d. Details of actions required to remain in compliance (if any).
- 3.1.4 Noise contours will be modelled and reported for all primary noise metrics to evidence both forecast compliance in the future five years, including predicted compliance with any future Noise Envelope contour limit that will come into effect within that 5 year period, and compliance in the previous 12 month period of operation (paragraph 7.1.6 of the Noise Envelope). Supporting information will include data from the secondary metrics, details of the noise modelling, any changes in operational practices and other details relevant to the noise forecast being provided (see paragraph 7.1.7 of the Noise Envelope).
- 3.1.5 The CAA will undertake a technical review to provide assurance that the AMFR has been prepared properly in accordance with the processes set out and is supported by reliable analysis prepared by competent industry specialists in aviation forecasting and noise assessment (see paragraphs 7.1.8 – 7.1.11 of the Noise Envelope).
- 3.1.6 To produce an AMFR, the Applicant must have both undertaken its business planning and produced a noise model to identify anticipated noise emissions from anticipated operations over the future five year period, and it must also have received and analysed the data from the previous year to identify how this aligns with future forecasts. It must also detail the actions that the Applicant may take to remain in compliance (if required) (see fourth bullet of paragraph 7.1.5 of the Noise Envelope).

- 3.1.7 In undertaking such reporting and submitting such information to the CAA the Applicant will be identifying for each of the future five years how close it is to a limit, what capacity can be released in the future without giving rise to a breach, and therefore how much head room there within the limit. It will also need to detail the measures that it is proposing to take to ensure it will remain in compliance with the Noise Envelope contour limits, proportionately to how close it is to a limit and as the CAA reasonably require. Taking this approach will best ensure that there is not a release of capacity which results in an exceedance, and the potential for the obtaining of historic rights which could then need to be addressed in the manner set out later in this summary document.
- 3.1.8 Whilst the Applicant has not, and does not agree to, setting a headroom requirement (for example 10% or 5% of the limit), which would be an artificial and unnecessary restriction on growth and economic benefit, inevitably the Applicant will plan with a level of headroom to appropriately manage the risk of breach and the consequences of that arising and to satisfy the CAA that the margin to the limit is reasonable and incorporates suitable tolerances. Moreover, the Applicant will also take into account its view on any margin of error in the modelling (which is anticipated to be reduced year on year through correlation with actual performance).
- 3.1.9 It inevitably takes some time to produce an AMFR from when information is received from ERCD, to model the future years, and to then analyse to identify compliance with the Noise Envelope limits and the reporting of those. It is taking this into account that the Applicant has set a date of 1st July each year as the latest date to issue an AMFR (see paragraph 7.1.3 and 7.1.4 of the Noise Envelope).
- 3.1.10 As an example of the timings:
- a. Within January of the relevant year the Applicant passes forecasting information for next five years to ERCD to generate future contours (Summer Leq day and night for five years, plus others).
 - b. April of the relevant year – ERCD provide the forecast and actual contour results which can then be included in the relevant AMFR.
 - c. May of the relevant year – Gatwick creates a monitoring report for the Noise Envelope;
 - d. June of the relevant year – performance review meeting with the Co-ordination Committee to consider in-season performance;
 - e. 1 July of the relevant year – last date Gatwick could submit AMFR to the CAA;

- f. July of the relevant year – Meetings with Coordination Committee to discuss available capacity and the requests made by operators.
- g. September of the relevant year – Confirmation of final co-ordination parameters and details of available capacity.

- 3.1.11 Based on the above timescales, it will be known before the final co-ordination parameters are confirmed whether there is a forecast breach of the noise envelope, where this has been identified by the Applicant in its AMFR, and whether as a result additional capacity will not be capable of being released until the measures to address a future forecast breach (in any of the next five years) are resolved. Accordingly, this will be taken into account in the confirmation of the co-ordination parameters from which slots will be able to be allocated and this will prevent any future breach within the five year forecast period arising.
- 3.1.12 The Applicant will also know of the forecast compliance position around April of the relevant year, and it will take this into account in its business planning which feeds into the agreement of the co-ordination parameters with ACL. It must do this, as otherwise it will know that the breach issue will arise later in the co-ordination parameters discussions, which would be disruptive to business and cause significant reputational issues which must be avoided and cannot be overlooked.
- 3.1.13 For clarity, it is also the case that the forecast breach does not need to be in the next year to engage the capacity release restriction, but within any year in the next five years. By way of an example, if the July 2024 forecasting identified a breach in Summer 2028, so four years in the future, no additional capacity could be released in Summer 2025, or rather until measures have been identified to prevent that future breach arising. ACL would be required to respect that position when allocating slots.
- 3.1.14 It is highly unlikely there would be a forecast breach in the next season, as such a breach would already be likely to have been identified in earlier forecasting and have been required to be addressed.
- 3.1.15 Applying this level of control significantly increases the effectiveness of the Noise Envelope to prevent future breaches arising / ensuring the measures are in place to prevent this and allow for the growth of the airport to the levels the DCO would permit in a sustainable and responsibly managed way. This is a key reason why the Gatwick Noise Envelope is a significant improvement on the backwards looking Environmentally Managed Growth proposals submitted by the Joint Local Authorities.

- 3.1.16 It is not guaranteed that it would be known by the relevant September, when the coordination parameters are confirmed, where the CAA identify a breach in their independent review role, or where the SoS agrees with the CAA on any appeal. As such, for a July 2024 reporting the restriction would not, in the above example of a Summer 2028 forecast breach, restrict additional releases of capacity for Summer 2025. But in those circumstances the capacity release restriction would still bite on future capacity declarations before any breach arises (so for example Summer 2026) and mean the airport must then address this in accordance with the Noise Envelope requirements, to alleviate the restriction on releasing additional capacity in the future.
- 3.1.17 The airport will not be able to be blind to what its business planning means for noise emissions in future years. It will know that it will be impacted by any forecasted breach, or there is a significant risk of it being so impacted, and it would know it needs to take measures to address this to protect its business and reputation. It will also know that the CAA will be scrutinising the Airport's forecasted noise performance against the Noise Envelope.
- 3.1.18 The previous point raised regarding the restriction being engaged where there is any exceedance identified over the future five years is also very relevant, because even where the forecast breach is confirmed at a later point, such as where identified by the CAA, it would still in all likelihood bite before any actual breach has arisen. In this way, the 'delay' to the identification of a future forecast breach meaning some capacity in the next immediate season could be released before the forecast breach is identified is not critical, and rather it has been specifically accommodated for in the forward-looking controls which the Applicant has proposed.
- 3.1.19 Moreover, the Applicant also intends to start to run the AMFR process two years prior to the NRP opening, which is to ensure the reporting process is working and that stakeholders have experience at managing it before operations go live and so that any teething issues can be resolved in a 'test' environment, but also because this will show the anticipated rate of growth and ensure an effective level of control looking at the first 3 years into the operation of the NRP as the starting point. Provisions will be added to the DCO requirement to capture this additional level of oversight in due course.

The future forecasting process proposed by the Applicant, which is to be subject to independent review by the CAA, is considered to be very robust and effective. It is also identified to offer a level of protection which a backwards looking envelope, even one which takes into account threshold limits, cannot match. That

is both in respect of ensuring there is not an actual breach of the Noise Envelope and protecting the Airport from adverse business and reputational impact.

4 What happens in the event of breach to bring the Airport back into actual or forecast compliance?

4.1 Overview

- 4.1.1 In accordance with paragraph 7.2 of the Noise Envelope document, where the Applicant identifies an actual or forecasted breach or the CAA on reviewing and verifying an AMFR identify an actual or forecasted breach, it is necessary for the Applicant to submit a compliance plan to the CAA (see section 7.2 of the Noise Envelope).
- 4.1.2 As detailed at paragraph 7.2.1 of the Noise Envelope, a compliance plan must include as a minimum:
- a. An explanation of why noise levels were higher than previously forecast;
 - b. Action(s) to ensure any under-estimation error is not repeated, if appropriate;
 - c. Actions proposed to reduce aircraft noise in the next year(s) to achieve compliance, including capacity management measures if necessary; and
 - d. Revised forecasts for next 5 year period taking into account the impact of the proposed measures detailed in the compliance plan, to confirm compliance with the relevant extant and known future noise limits within that period.
- 4.1.3 The sorts of actions available to the Applicant to manage compliance with the noise envelope include:
- a. Pre-emptive management
 - i. Longer term forecasts (5 years) updated each year and taking account of changing forecast environment in terms of traffic mix, fleet planning and capacity planning;
 - ii. Altering charging structures to help influence operation of quieter aircraft;
 - iii. Introduce restrictions on operation of noisier aircraft to stop new capacity being taken by them – noise efficient slots;
 - b. Season ahead controls
 - iv. Restricting the amount of capacity released in any season conditional on meeting quota targets.
 - v. Introduction of QC quota allocation for airlines to limit the airport to a seasonal total QC as a proxy for the Noise Envelope
 - c. In season controls

- vi. Require action from airlines who are forecast to exceed their QC quota to take action to bring it down.
- vii. Last resort - prevent airlines from operating services which put the airport at risk of exceeding the airport QC quota and as a consequence, the noise envelope, where subject to a QC requirement.

4.2 How does the Airport correct an actual exceedance, including where this is caused by the use of Historic Rights?

- 4.2.1 It has been explained that the primary basis on which the Noise Envelope identifies and prevents breaches occurring is by way of its five year future forecasting, which will be effective to identify potential breaches and to prevent them arising. The annual reporting of actual results primary purpose is as a verification tool, to verify the forecasting, identify any margin of error, and ensure that this can be corrected and the accuracy of future forecasting improved.
- 4.2.2 Whilst that is the primary purpose of the actual monitoring, and however unlikely, there is inevitably a theoretical risk that an actual breach of the Noise Envelope does occur which must be accounted for.
- 4.2.3 It is considered that in most circumstances this would be as a result of an operational issue, for example issues in relation to systemic operational disruption at other airports or in the air traffic control system. Where something of this nature occurs, the Applicant will need to identify that this was the cause, and how, where it is anticipated this could arise again in the future, it will introduce measures to ensure such a breach does not occur again in a compliance plan. Should such a breach occur in the next season despite the measures being implemented, this is when a capacity restriction for actual breach bites (see paragraph 7.3.1 of the Noise Envelope). This is a severe sanction, but it has been accepted by the Applicant who acknowledges that whilst such issues may not be within its sole control, it must take responsibility for the airport's operations and ensure protection for local communities.
- 4.2.4 There is then the even more unlikely circumstances that too much capacity is released, which leads to a breach notwithstanding the process described above. In respect of such released capacity historic rights could be obtained. In those circumstances, and without the application of a Local Rule, there would be no legal mechanism available to the Applicant or ACL to require airlines to give up slots, or to operate them using different aircraft to achieve compliance with the noise envelope.

- 4.2.5 However, in those circumstances the Applicant would seek to negotiate a voluntary position with affected airline operator(s) as appropriate. Such negotiation would also be undertaken against the backdrop that the Applicant would be in breach of the DCO requirement, and in the event of persistent breach enforcement action may be taken under the Planning Act 2008. An ultimate sanction under such Planning Act 2008 enforcement procedures could be the imposition of a court injunction, to prevent continued operations which result in breaches of the Noise Envelope contour limits.
- 4.2.6 It is not considered that there is any realistic possibility of that situation arising, taking into account the robust forward-looking nature of the controls that are proposed, the need to evidence how compliance will continually be achieved and the measures to do this year on year, and the early 'shadow' implementation of the noise envelope two years prior to operations from the NRP commencing.

APPENDIX B

Gatwick Airport Ltd

Gatwick Airport Noise Insulation Scheme Review

Survey of Scheme Users

27 August 2019

Project No: 229057

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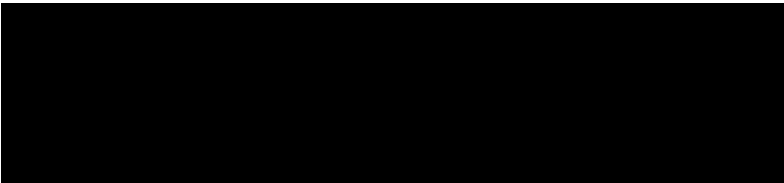
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Signature Page

27 August 2019

Gatwick Airport Noise Insulation Scheme Review

Survey of Scheme Users



Name Steve Mitchell
Job title Partner

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1. INTRODUCTION

Under Gatwick Airport's current Noise Action Plan, Gatwick Airport Ltd (GAL) is committed to undertaking a review of the current Noise Insulation Scheme. In July 2019 a short postal questionnaire was issued to householders who have taken up the scheme to better understand the benefits it gives and how it might be improved. This report provides an analysis of the information provided by 158 residents who replied to a questionnaire.

Section 2 provides a summary of the survey findings.

Section 3 gives more detail of the survey methods.

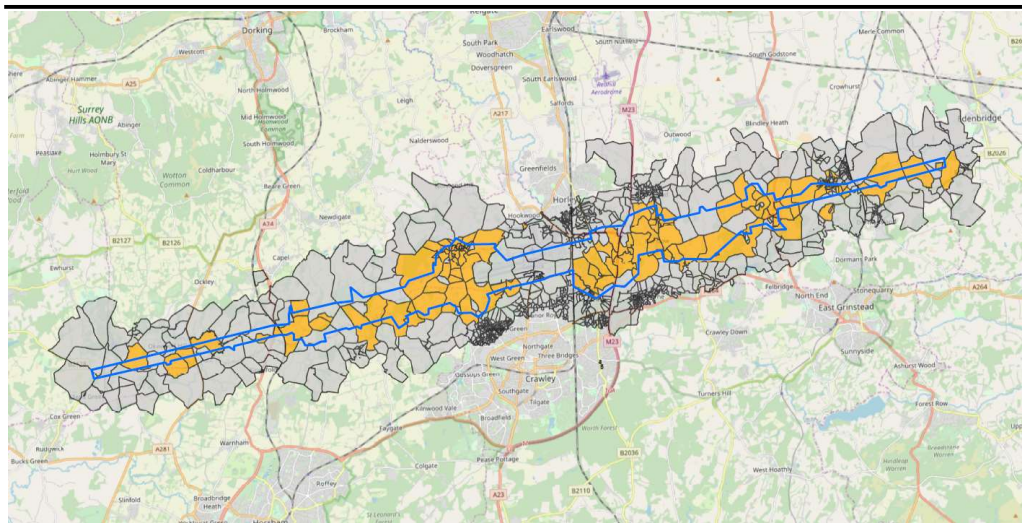
Section 4 gives details of the findings.

Section 5 draws key conclusions.

2. SUMMARY

The current Noise Insulation Scheme is based on a 60dB Leq noise contour from 2014 with extensions 15km from the airport under the approaches to the runway, as shown by the blue line in Figure 1.

Figure 2 Noise Insulation Scheme Uptake



There are currently approximately 2,094 homes within this scheme area. The scheme is administered by Anglian whose records show that approximately 1,034 homes have taken up the scheme (April 2019), ie 49% of those eligible. The survey was sent to nearly all the addresses whose owners had taken up the scheme (a small number being missed due to inaccurate or changed addresses).

Figure 1 shows the postcode areas of addresses in and around the scheme. Those postcode areas shown orange have at least one house/flat that has taken up the scheme. The uptake/non-uptake of the scheme shows no particular pattern.

The scheme offers £3,000 (plus VAT) towards acoustic windows or doors that are currently provided by Anglian at discounted cost. The applicant may pay the extra to increase the package supplied which is also supplied at discounted cost, providing a significant saving on retail prices. The mean costs of the material provided is about £4,000 with 13% of homes topping this up to over £5,000 in total.

Of the 158 completed questionnaires:

- 98% have outside space;
- 76% have acoustic windows installed;
- 57% have new doors installed;
- 10% have other products provided (loft insulation);
- 81% are generally happy with the products;
- 90% found the scheme reasonably easy to access;
- 68% found the scheme had improved aircraft noise within their home;
- 69% said at least one household member was disturbed by aircraft noise;
- 77% felt the scheme could be improved to better reduce aircraft noise;
- 50% said the scheme had reduced sleep disturbance;
- 73% sleep with windows open at least some of the time;
- 80% said aircraft noise would disturb them less if the house could be adequately ventilated without opening the windows; and
- 74% would consider an alternative form of ventilation such as a wall mounted acoustic ventilators.

In addition to these headline statistics, residents provide comments for each question which provide additional insight into how the scheme could be improved, as discussed in Section 4.

3. SURVEY METHOD

3.1 Survey Design

The survey was designed to provide direct feedback from those who have received products from the scheme, not those who had chosen not to. Householder were told GAL was reviewing the current scheme and asked to fill out and return the questionnaire to help this process. It was made clear the survey was not intended to provide feedback on the contractor nor the condition of the products, and replies would be confidential. The covering letter and full questionnaire are provided as Appendix A.

The questionnaire was designed as a series of yes/no questions with space for comments for each question and in general below. The question wording and sequencing was designed with assistance from Sussex University to minimise bias.

The survey was posted out at the beginning of July 2019 asking for replies before 15th July. This was during the airport's busy summer period and during a period of generally pleasant warm weather.

On 18th July GAL announced to the Gatwick Airport Consultative Committee (GATCOM) its intension to pursue the Northern Runway project. Survey replies received after this date were not analysed.

3.2 Survey Analysis

Not all respondents replied to every questions. The following table shows the total amount of "yes" and "no" answers to each question presented in the questionnaire. Where percentages are reported, they are of those answering the relevant question unless stated.

Table 3.1 Question Completion Rates

| Question Number | Answer | |
|-----------------------------|------------|-----|
| | Yes | No |
| 1 | 150 | 7 |
| 2 | 155 | 2 |
| 3 | 10 | 145 |
| 4A | 120 | 18 |
| 4B | 90 | 45 |
| 4C | 15 | 60 |
| 5 | 116 | 28 |
| 6 | 125 | 14 |
| 7 | 95 | 45 |
| 8 | 99 | 45 |
| 9 | 82 | 24 |
| 10 | 70 | 69 |
| 11 | 112 | 42 |
| 12 | 117 | 30 |
| 13 | 104 | 37 |
| 14 | 51 | 41 |
| TOTAL Questionnaires | 158 | |

Completed questioners were returned to GAL, scanned and issued to ERM for analysis anonymously.

4. ANALYSIS

4.1 Question 1

Have you lived in this home for at least 2 years?

96% of respondent had lived in their homes for at least 2 years. A few of these were not familiar with the scheme, which may have been taken up by previous occupiers more than two years ago.

Of the 7 that has not lived there for 2 years, 4 were unaware and unfamiliarised with the scheme.

4.2 Question 2

Does your home have outside space, eg garden?

More than 98% answers were positive for external outside spaces in their household. Outside spaces were predominately gardens, but there are also balconies and common green areas.

4.3 Question 3

Does anyone living there work in the airport?

6% (10 households) of the sample works at the airport. Of these 10, 9 reported a degree of disturbance, one did not.

4.4 Question 4

What products you have installed in your home under the scheme?

In total 76% had acoustic windows installed. Few has all windows treated, and in some cases bedrooms or resting/family rooms had not been treated. This generated a large number of comments in the questionnaire returns.

57% of the households had doors installed under the scheme. In the majority of the cases this was the front door, which presumably does not lead directly to a noise sensitive room.

Of the 10% who reported other products being installed, the majority was loft insulation, with good feedback from the installation and overall feedback in general.

4.5 Question 5

Are you generally happy with the product(s) provided?

89% were happy. Analysing the 19% households that are not happy with the products provided they fall in the following categories:

- Unhappy with Anglian services/installation and maintenance
- Unhappy with the general quality of the products

4.6 Question 6

Was the scheme reasonably easy to access?

90% found the scheme reasonably easy to access. The 10% who did not were mostly commenting on the service provided by Anglian such as time waiting for installation.

4.7 Question 7

Have the products provided improved the aircraft noise environment within your home in general?

68% of the households said the scheme had improved aircraft noise within their home.

Those that did not fall in to the following categories:

- The products (windows or doors) only work when closed. People want to have the windows open to have some natural air ventilation inside the house. Doing so the sound insulation properties of the installed products are reduced in a substantial way.
- In some few cases the householders commented about the noise insulation being worse now than before the scheme installation, this reflects low quality products and/or poor quality installation.
- A large proportion of householders that answered "yes" use expressions such as "very slightly", "almost nothing" and "could/should be much better" to describe the changes.

4.8 Question 8

Would you consider any household members to be disturbed by aircraft noise at home, if so where?

69% said at least one household member was disturbed by aircraft noise. Analysing these the common places where they were disturbed are:

- Garden and/or outside areas (conservatories included). These outside areas were listed by more than 70% of the 99 disturbed households.
- Inside the house when doors and/or windows are open. Including the bedrooms creating, in 40% of the cases, problems sleeping, resting or even studying. 25% of the 99 disturbed householders have problems listening to the radio and television even with the doors/windows closed.

4.9 Question 9

Could the scheme be improved to provide better reductions in aircraft noise ?

77% felt the scheme could be improved to better reduce aircraft noise, with comments on the quality of the products and the partial and not total replacing of the number of windows per house (allowance\budget per house).

4.10 Question 10

Have the products provided reduced sleep disturbance from aircraft noise in your home?

50% said the scheme had reduced sleep disturbance. Comments from the “no” answers fall in to the following categories:

- Most of the people open the windows to ventilate their bedrooms during the night, which decreases significantly the noise insulation properties of the windows.
- In some cases the bedroom windows were not replaced by the scheme, instead the windows replaced by the scheme were the windows/doors on the front of the house or other part of the property.

4.11 Question 11

Do you sleep with windows open at least some of the time?

73% sleep with windows open at least some of the time, but of these the vast majority said only in the summer time for cooling. People who do open windows still commented about the noise inside the house.

The largest group of the householders that answered “no”, around 75% of the 42 householders, do not open the windows not because they do not feel too hot in the higher summer temperatures but because of the noise levels inside the house when windows are open.

4.12 Question 12

Would aircraft noise disturb you less if your house could be adequately ventilated without opening the windows?

80% felt yes.

4.13 Question 13

Would you consider an alternative form of ventilation such as a wall mounted acoustic ventilators, if they were supplied by the scheme?

74% (104 households) would consider an alternative form of ventilation such as a wall mounted acoustic ventilator. The 37 householders that gave a negative answer fall in the following categories:

- needed more information about this product and how does it work (more than 25 householders);
- wanted to know how much electricity it consumes and how does this translate to the normal energy bill; and
- wanted to know more about the physical and visual impact in the house (inside and outside).

4.14 Question 14

Can you provide any other suggestion as to how the noise insulation scheme could be improved to further reduce noise ?

Various comments, including the following on how to improve the scheme and reduce aircraft noise were provided:

- reduce air traffic especially during the evening and early mornings;
- new/better products (triple glazing);
- increasing the budget amount of the scheme;
- instead of selected/partial windows installations change the approach for a full total house windows replacement;
- quieter planes; and
- air-conditioning or other form of air circulation with the windows closed.

4.15 Contact

Would you be willing to allow us to discuss the noise insulation scheme with you further?

Around 100 householders provided their contact number for further discussion. Several wrote letters to GAL explaining their concerns and requesting replies. We do not plan to contact all of these, but to inform the study it is intended to speak to a selection of householders to discuss in more details how the scheme can be improved.

One householder reported health problems, one requested further information and one had an outstanding problem with the scheme provider. GAL is aware of these and will reply accordingly.

5. CONCLUSIONS

A short questionnaire was designed to ask householders what benefit they gained from Gatwick Airport's Noise Insulating Scheme (NIS) and how it could be improved. In early July 2019 the questionnaire was sent to over 1000 households who have taken up the scheme, and 158 householders returned the completed questionnaire. The following key themes emerged.

The current NIS provides acoustic windows, doors and loft insulation. Whilst 68% of householders felt the scheme had improved aircraft noise within their home and most recipients are satisfied with the products provided, most (77%) felt the scheme could be improved.

The scheme provides £3,000 of products which in many cases is not sufficient to treat all windows. Whilst householders are able to add to this at discounted rates, GAL should consider increasing the offer to those most affected.

It is not clear if the scheme focuses on the most noise sensitive rooms, generally bedrooms, living rooms and dining rooms, nor if the doors provided (to 57% of homes) improve internal noise levels. GAL should consider focusing the scheme provisions on products that reduce noise levels in noise-sensitive rooms.

73% of those questioned said at least one member of the household sleeps with windows open some of the time. 80% said aircraft noise would disturb them less if the house could be adequately ventilated without opening the windows, and 74% would consider an alternative form of ventilation such as a wall mounted acoustic ventilators. Residents asked about details of ventilators, such as running costs. GAL should consider including wall mounted ventilators in the scheme offer for those most affected, particularly for bedrooms.

This survey concerned households that have taken the NIS, rather than those who have not and why not. That would require a separate study of the approximately 50% of households within the scheme boundary who have not taken it up.

The next step is to speak to a selection of householders to further understand how the scheme can be improved.

APPENDIX A

Survey Questionnaire and Covering Letter.

Address

1 July 2019

Dear resident,

Gatwick Airport Noise Insulation Scheme

I am writing to you and people who have in the last few years received some benefit from the Gatwick Airport Noise Insulation Scheme. Gatwick Airport Ltd is currently reviewing the scheme and I want to ask for your views so that we can work towards improving the scheme for residents significantly affected by aircraft noise around the airport. We are reviewing the scheme as part of our ongoing Noise Action Plan (<https://www.gatwickairport.com/globalassets/business--community/new-sub-category-landing-pages/aircraft-noise--airspace/fpt-reports/gal-end-noise-action-plan-2019-2024-lr.pdf>) commitments.

Below are a series of questions for your consideration, but please also provide any other feedback to us that you feel may help our review. We are writing to many recipients of the scheme to help understand how the scheme could be improved, both for residents who have received fitted products through the scheme and those who have not. We will be publishing a report of our review, but please be assured your response will be analysed and reported anonymously.

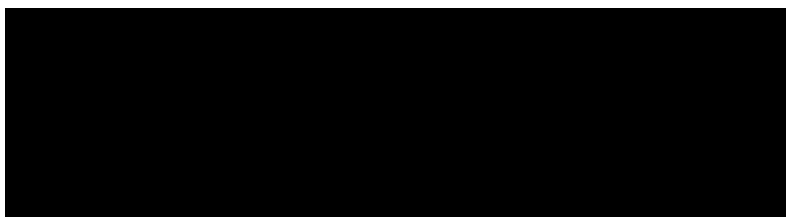
Please do not include any requests relating to the works you may have had or are due to have. These should be directed to our scheme contractor, Anglian. If, as a result of the review we are undertaking, we change the scheme in future, you will be notified and made aware of any changes that may relate to you, at that time.

Please return this questionnaire to the following freepost address by 15th Jul 2019:

FREEPOST Gatwick Flight Performance Team
7th Floor Destinations Place
Gatwick Airport
Gatwick
RH6 0NP

Thank you for your assistance.

Yours sincerely,



LEE HOWES
AIRSPACE AND ENVIRONMENTAL PERFORMANCE MANAGER

Please tick the Yes or No box, or neither, and add comments where necessary. Please answer for yourself as a resident of the home to which this letter is addressed, or on behalf of the household in general if you prefer and note this.

| | Question | Yes | No | Comment |
|----|--|------------|-----------|----------------|
| 1 | Have you lived in this home for at least 2 years ? | | | |
| 2 | Does your home have outside space, eg garden ? | | | |
| 3 | Does anyone living there work at the airport ? | | | |
| 4 | What product(s) have you had installed in your home under the scheme ? | | | |
| A | Replacement windows | | | |
| B | Replacement door(s) | | | |
| C | Other | | | |
| 5 | Are you in general happy with the product(s) provided? | | | |
| 6 | Was the scheme reasonably easy to access ? | | | |
| 7 | Have the products provided improved the aircraft noise environment within your home in general ? | | | |
| 8 | Would you consider any household members to be disturbed by aircraft noise at home, if so please specify how/ where ? | | | |
| 9 | Could the scheme be improved to provide better reductions in aircraft noise, please comment how ? | | | |
| 10 | Have the products provided reduced sleep disturbance from aircraft noise in your home ? | | | |
| 11 | Do you sleep with windows open at least some of the time ? | | | |
| 12 | Would aircraft noise disturb you less if your home could be adequately ventilated without opening the windows ? | | | |
| 13 | Would you consider an alternative form of ventilation such as a wall mounted acoustic ventilators, if they were supplied under the scheme ? | | | |
| 14 | Can you provide any other suggestions as to how the noise insulation scheme could be improved to further reduce noise disturbance within your home ? | | | |
| | Would you be willing to allow us to telephone you to discuss the noise insulation scheme with you further ? If so, please provide your telephone number. | | | |

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