



HEATHROW COMMUNITY
ENGAGEMENT BOARD

Noise Update

Dear all,

I am writing with my 3rd and final update for 2019.

I have now received answers to the outstanding questions put to the DfT and HAL. HAL wrote to me on the 7 and 14 November and the DfT on 15 November 2019. I apologise for the delay in getting these answers out to you all since their receipt. This is entirely down to me looking to find the time and space to read and digest the responses.

Department for Transport

Questions asked 17 June 2019

1. Who is responsible for protecting the health and wellbeing of the public when it comes to noise pollution and does this responsibility amount to a duty of care?
2. If there is a shared responsibility, how does Government ensure that the issues that are raised, about noise pollution, by the communities affected, are properly considered and understood so that nothing is missed because of a shared responsibility?
3. What is the DfT's position on change, and does the DfT accept that change increases sensitivity?
4. How is change reflected within Government policy?

DfT response

The Airports National Policy Statement (ANPS), designated on 26 June 2018, was the subject of several applications for Judicial Review, which were dismissed in their entirety by two judgments handed down on 1 May 2019.

Several claimants were granted permission to appeal against the High Court's judgments, on a reduced number of grounds. A hearing was held before the Court of Appeal over six days during October, and judgment is now awaited. In the meantime, the Department is not able to comment on the issues raised in the course of the proceedings. This includes any issue relating to the merits of the ANPS or the process by which the policies in it were formulated

Questions asked 12 July 2019

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1. Do the DfT agree with DEFRA, that “The measurements, therefore, suggest that aircraft plumes mix downwards to a sufficient extent to be detected at ground-level at concentrations similar in magnitude to road vehicle sources. The implications of this work are potentially important for exposure to UFP concentrations. For example, a location such as Heathrow Airport, where aircraft tend to approach the airport from the east (flying over the London conurbation), there is potential for considerable exposure to UFP from aircraft”?
2. If the answer is “YES” (i.e. the DfT agree with DEFRA) do the DfT agree on the harm that can be caused to people from this exposure?
3. If the answer is “No” (i.e. the DfT do not agree with DEFRA) can the DfT then explain why they do not agree and what reassurance can they give the public that DEFRA is incorrect?

DfT response

We would first like to clarify that the text attributed by the group to Defra actually comes from an Air Quality Expert Group (AQEG) report rather than from Defra. The AQEG is an Expert Committee that provides independent scientific advice on air quality to Defra.

It is also important to note that after the quoted text, the report continues “It should be stressed however, that there are no measurements of UFP upwind of Heathrow to confirm whether elevated UFP concentration can be detected due to landing aircraft.”

The findings and recommendations of the AQEG report on Ultrafine Particles in the UK have contributed to the draft policy proposals on air quality within the Aviation Strategy green paper, which recognises the need to take further action to ensure aviation’s contribution to local air quality issues is properly understood and addressed. Should air quality targets change in future – a process led by Defra, informed by the latest scientific evidence – any applicant would need to demonstrate compliance with these revised targets.

Questions asked 31 July 2019

1. **When the question was posed about why WHO guidelines have not been used to set noise standards and targets, Ian Green responded that there are “uncertainties”. Does the government believe that uncertainties are a valid reason to ignore guidance based on the best available evidence? He also sought to justify the non-use of WHO guidelines by saying that this was government policy, but that is a circular argument. Would the DfT care to elaborate?**
2. **The air pollution assessment excluded the impact of air pollution from aircraft away from the immediate vicinity of the airport. This is apparently justified by Heathrow’s**

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claim that aircraft flying into and out of Heathrow Airport “do not have a significant effect on air quality in the local area”. Do you have evidence to support that statement?

3. Does the government accept the ‘Polluter Pays Principle’, such that, to the extent that noise and emissions cannot be mitigated, compensation should be paid to those affected?

DfT response

1. Ian Greene stated that the Interdepartmental Group on Costs and Benefits Noise Subject Group (IGCB(N)) would look at the WHO guidelines and other relevant recent studies including at relevant uncertainties around the evidence base before considering whether to update government guidance in that area. Current aviation noise policy exists and will be reviewed if necessary following any updated guidance produced as a result of the IGCB(N) review.
2. The assessment of air quality impacts at an expanded Heathrow was carried out for the independent Airports Commission (AC) by external consultants. This analysis made use of the latest available scientific evidence and modelling, including Defra’s suite of air quality models.

For example, as stated in the Airports NPS, at paragraph 5.28, Defra’s Pollution Climate Mapping model was used to estimate the contribution of aircraft movements to concentrations of air pollutants in the vicinity of Heathrow airport. This is showed that in 2015, their contribution even at this proximity amounted to only 17% on average of local NO_x concentrations at nearby roadside locations. Road transport, by comparison, accounted for 64% of No_x concentrations in the same areas.

The size of the study area was carefully considered by the AC’s consultants Jacobs, in line with the latest scientific evidence, and differed according to the source of the pollutant: aircraft, airside and surface access.

For aircraft emissions, the size of the study area for the air quality analysis was informed by an understanding of how emissions from aircraft disperse. Aircraft emissions (from landing and take-off) make up the majority of aviation emissions. The concentration of pollutants decreases quickly as you move away from the point of emission. This effect is so pointed that research presented by Defra found that aircraft emissions produced above 100m altitude have almost no impact on ground level concentration.

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<https://uk-air.defra.gov.uk/library/aeqg/publications> – Defra Nitrogen Dioxide in the UK 2004

A 2km radius from the airport boundary, as used by Jacobs (expert advisers to the Airports Commission) in their air quality analysis to define the ‘Principal Study Area’, will capture the impacts of all aircraft emissions under 100m, and therefore all aircraft emissions that will have a discernible impact on ground level concentrations and human health. Airside emissions – those that occur at the airport – are also captured within this Principal Study Area.

For surface access emissions, Jacobs also estimated emissions from additional surface access trips across all road links where additional traffic met a standard minimum screening threshold. A ‘Wider Study Area’ captures the direct impact from more traffic to the airport, and a ‘Traffic Simulation Area’ captures the indirect effect of wider traffic due to airport expansion. This area stretches far beyond the 2km principal study area.

In their DCO submission, the applicant will need to provide a comprehensive assessment of increases of air pollutants over whatever area they are found to occur. The Airports NPS makes this clear, at paragraph 5.42: the Secretary of State will consider air quality impacts over the wider area likely to be affected, as well as in the vicinity of the scheme. The applicant will need to assess any increases against legislative targets and, to secure consent, must be able to demonstrate that expansion will not affect compliance with the UK’s air quality obligations.

3. The detail of the compensation package will be set through the planning process.

I would refer you to the Government Response to the consultations on the Airports NPS, specifically paragraphs 9.50;

The Government recognises the ‘polluter pays’ principle as the principle that underpins most of UK and EU regulation of pollution affecting land, water and air. The Planning system recognises that development can have negative impacts on property owners and so statutory protections are provided. The Airports NPS is clear that statutory protections must be afforded and the applicant must fulfil its statutory compensation duties in a timely and efficient manner as required under the Compulsory Purchase Act 1965 and Part 1 of the Land Compensation Act 1973.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/713357/government-response-to-the-consultations-on-the-airports-nps.pdf

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Heathrow Airport Ltd

On 9 August 2019 I asked HAL the questions on general noise related issues, 4% climb gradients, CDAs and Stanwell Moor. I received replies on 14 November 2019.

General Noise Related Questions

(1) I would be interested to understand the process that HAL has in place for answering questions that it receives from residents, specifically those that it considers to be repetitious.

All correspondence is managed by Heathrow's Community Relations team who consult with relevant experts to answer and respond to questions and comments raised by residents. The team uses some standard paragraphs to respond to questions that are frequently asked.

(2) Does the HCNF keep an active log of questions that have been asked during, or outside of meetings so that responses are tracked when answered, or followed up when not?

Following a request from HCNF members, a live HCNF Issues Tracker has been developed to keep a log and historic account of all topics raised and responded to at the HCNF. This is updated following HCNF meetings. The Community Relations team is responsible for managing all other correspondence.

(3) I understand that HAL receives a number of enquiries, some of them detailed and technical in nature. Does HAL acknowledge the enquiries that it receives and does it provide a time scale for a reply along with the details of whom the reply will be from?

Our Community Relations team endeavours to respond as soon as possible to all correspondence received. This timing will vary depending on the nature and detail of enquiries received and availability of relevant experts to provide helpful responses. The number of enquiries received during consultation periods has been particularly high and we are seeking to increase the size of the team to enable us to respond to enquiries more promptly.

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(4) Where an enquiry is accompanied by material that is offered in evidence by the sender, does HAL explain where they accept evidence and where they do not?

We take our community engagement very seriously and consider all feedback, enquiries and accompanying material received. We provide evidence to support our responses where appropriate.

4% Climb Gradient to not less than 4,000ft

(1) Does HAL have data that illustrates the actual rate at which aircraft climb at per airline or per aircraft?

Climb gradients are set by Government and are set out in the Aeronautical Information Publication (AIP). Heathrow does not operate aircraft and can only monitor aircraft movements in accordance with those AIP requirements. The noise and track-keeping system is therefore designed to track and report aircraft against the AIP requirement. That requirement is for a 4% climb from 1,000ft AAL (above aerodrome level) to 4,000ft AMSL (above mean sea level) and the system only flags aircraft that do not meet this climb gradient. We do not have any authority to ask airlines to climb above the level required by them in the AIP so we do not monitor this.

(2) Does HAL have data that illustrates the distance from take-off at which aircraft have reached 4000 feet per airline or per aircraft?

As stated above, Heathrow monitors the climb gradient from 1,000ft to 4,000ft. However, we do not record the exact take-off point from the runway so we are not able to provide such data.

(3) Is HAL aware of any airlines that climb that use a gradient of less than 5% and climb to just above 4000 feet at that rate on a regular basis?

As stated above, the current AIP requirement is for a 4% climb and we track and report against this requirement. This is monitored on a pass/fail basis and we therefore do not consider the actual climb gradient of aircraft that have met this requirement.

(4) Could airlines be encouraged to climb to a higher gradient or even incentivised where they presently do not or do, but infrequently?

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There is no policy requirement for aircraft to climb at a higher gradient than this but we continually work with our airlines to ensure improvements to the 0.2% who don't comply. However, we are looking to design our future airspace to incorporate a minimum 5% climb gradient and an airspace change proposal would be required to get permission for this change.

(5) Referring to the study of 42 airports, to aid my understanding, could HAL confirm whether the minimum rates of climb achieved by aircraft at those airports where 4% was exceeded have been analysed and whether as part of the analysis the viability of doing likewise at Heathrow been considered?

Heathrow does not have the track profile data from the other 42 airports so we are unable to undertake any track analysis.

(6) It is my understanding that HAL's position is that airspace modernisation is needed to support significant changes to the rate of climb for aircraft that use Heathrow both below and above 4,000. Could you confirm that it is HAL's view that airspace modernisation is needed to increase the rates of climb both up to 4,000 feet and beyond 4,000 feet up to 6,000 feet? What does "significant change" mean in this context and might it be possible, in the intervening period, to get to a position where changes are just less than what amounts to "significant change"?

Airspace modernisation is a Government programme and Heathrow is undertaking airspace modernisation alongside our plans to expand the airport. We recognise the benefits that airspace modernisation might bring and are committed to delivering it, but we have not made any statements as to whether airspace modernisation is needed to achieve higher climb gradients.

(7) Has HAL come across any occasions where commercial reasons rather than noise abatement reasons – predominately or otherwise – are the reason for not climbing steeper and faster? As a for instance, is there less of an incentive for long-haul flights to climb higher and quicker?

Heathrow tracks and reports the climb gradients of aircraft against the AIP requirement as set out above and ensures airlines comply with this requirement. Any questions on commercial reasons for the climb gradient flown should be directed to the airlines.

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(8) Does steeper take-off affect NoX levels? If so is this a factor in any decision on the rate of climb?

Steeper rates of climb could increase Nox levels close to the runway ends, due to higher thrust settings. Potential Nox levels would therefore be taken into consideration when exploring departure climbs, as well as noise impacts and a range of operational factors. Different climb proposals will have different impacts over different areas.

(9) When considering NADP1 and NADP2, are they mutually exclusive or is one intended to cover aircraft nearer to an airport and the other, further away?

The noise abatement departure procedures NADP1 and NADP2 are described by the International Civil Aviation Organization (ICAO) in the document ICAO PANS OPS DOC8168. NADP1 is characterised by its initial climb phase being longer before the aircraft lowers its nose to gain speed, whereas NADP2 sees the aircraft lower its nose earlier to pick up speed before beginning to climb once more. NADP1 does not necessarily dictate a steeper climb. It may be suitable for noise reduction for communities closer in, whereas NADP2 may be more suitable for those communities further away from the airport. By choosing one procedure over another, the noise moves from one area to another. Heathrow has no powers to dictate which procedure an airline should follow, and very few airports around the world do so, as it is recognised that choosing one procedure over another does not provide a shared benefit for all communities. Heathrow already specifies a number of noise abatement procedures within the UK Aeronautical Information Publication (AIP) and airlines are strictly monitored against these requirements.

(10) Does HAL have a measure for considering what might benefit one community and what might as a consequence, be a detriment to another?

Heathrow works very closely with airlines, regulators and local communities to continually find new ways to reduce any negative impacts of our operations. Through the HCNF and working groups in particular, we work alongside communities and other stakeholders to conduct extensive research, engage on our ongoing work, conduct trials when appropriate and practicable, and ensure that any changes are delivered in the fairest way possible to all communities.

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(11) Again, to help my understanding, is HAL aware of the number of airports that use steeper climb gradients for noise abatement reasons and are these voluntary gradients or enforced?

Heathrow conducted a study of climb gradients at other airports and provided details at the HCNF (available to download [here](#)). The study found other airports only use steeper climb gradients due to operational restrictions. At the time, we did not find any airports with steeper climbs being used for environmental reasons.

(12) How does sea level affect rates of climb? Is a gradient not calculated from the physical ground level – i.e. the runway?

An aircraft taking off at sea level would climb more efficiently than one taking off at 1,000ft AMSL due to air density. Our minimum climb gradient at Heathrow is recorded from 1,000ft above the ground to 4,000ft above sea level as set out in the Aeronautical Information Publication (AIP).

(13) Does HAL have any information or research that would allow me to understand how its noise metrics and noise abatement measures work in practice? Does HAL use metrics that measure community impact in this regard?

Heathrow understands the importance of transparency around noise and track-keeping. We publish data and research on our Noise website at www.heathrow.com/noise. Heathrow reports against our Fly Quiet and Green programme quarterly and publishes a quarterly AIP Compliance Report. We also publish an annual Airspace and Noise Performance Team Report.

(14) Do HAL measure the actual number of aircraft (by type and airline) that climb to above 4000 feet, for instance, 12 kilometres from start of roll and the amount that these aircraft are above 4000 feet? Does this data include the gradient used?

As stated above, the current AIP requirement is for a 4% climb and we track and report against this requirement. We do not consider the actual climb gradient of aircraft that have met this requirement. Our online flight analysis tool xPlane is available on our website and provides data on the number of aircraft above and below 4,000ft at any given location. However, this data does not include climb gradients.

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Continuous Descent Approaches (CDA)

Regarding the answers given to the questions posed by the Dulwich and Herne Hill Quiet Skies Campaign (DHHQSC):

- (1) mention was made of CDA and that 87% of aircraft landing at Heathrow presently use CDA. Has an analysis of the impact of CDA been undertaken for this area? I understand from the Campaign that most flights over this area are between 3000 and 4000 feet so that the noise impact is, in fact, worse rather than better.**

A Continuous Descent Approach (CDA) is deemed to be continuous provided that no segment of level flight longer than 2.5 nautical miles occurs below 6,000ft above sea level. A level segment can be defined as having less than 50ft variance over a distance of two nautical miles. The aim is to avoid level flight as these require increases in engine thrust along with associated noise and emissions. Specific locations are not analysed as we will only deem an aircraft to be CDA compliant if it follows a descent path in line with the previous description. To achieve full CDA benefits for all communities underneath arrivals, the full profile must be flown. Communities that are overflown by aircraft between 3000 and 4000ft will see benefits from CDA, and these areas can see a reduction in noise of 1-5dB.

We regularly report adherence to CDA back to our airline partners to help them improve. CDA brings benefits to airlines as well as communities so there are incentives for airlines to adhere to it. We rank airlines on their environmental performance via our Fly Quiet and Green programme and CDA is one of the heavier weighted metrics. We also report our CDA compliance via our annual and quarterly Flight Performance Reports (available [here](#)).

- (2) In your answers, you say that the point at which aircraft join the ILS is spread over a relatively broad area. In organising planes for landing, are you aware if NATS air traffic controllers have been increasing the point at which aircraft most frequently join the ILS (by distance from Heathrow) in recent years? If so, what are the reasons for this and given the impact as reported by the DHHQSC are there any mitigation measures available that might address the impact?**

7.5 nautical miles is the minimum distance at which aircraft join the final approach to land at Heathrow. This distance will vary day-to-day, typically between 7.5 and 22 nautical miles, as a result of a number of factors such as weather conditions, aircraft size, time of day, time of year, and the arrival rate. This means that whilst some aircraft making their way from one

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of Heathrow's holding stacks and towards the final approach fly over areas such as Southwark or Dulwich, others join the final approach to the west or east of the area – this has been the case for many years. Each year Heathrow produces a report which analyses where aircraft join the final approach, known as the “joining point”. Our most recent 2018 report (available

https://www.heathrow.com/file_source/HeathrowNoise/Static/Joining_Point_Analysis_2017.pdf)

indicates that the average joining point distance was around 13.6 nautical miles. This compares with 13.9 nautical miles in the previous year.

[GL Note: the link doesn't appear to work so I have asked HAL for an alternate]

Would Richard West be available to meet a senior representative from DHHQSC and me at Brockwell Park in Herne Hill to understand better the issues they are experiencing?

Heathrow's Community Relations team has responded to several enquires raised by the Dulwich and Herne Hill Quiet Skies Campaign (DHHQSC) in recent months. We have also offered to meet with members of DHHQSC, and would be happy to do so if they would find it useful to discuss further any of the issues they have raised.

Stanwell Moor

Can a noise monitor be installed in Stanwell Moor as a matter of urgency?

Heathrow has received a number of requests from Stanwell Moor residents for a noise monitor to be located in the area. Locations for deploying monitors are selected annually in conjunction with members of the HCNF which includes representatives of local authorities and community groups. The HCNF is currently considering all of the monitor requests that we have received from communities around the airport as we prepare our noise monitor deployment plan for 2020. More information on the HCNF, including meeting notes and presentations can be found on our website <https://www.heathrow.com/company/local-community/noise>

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You may recall that we were waiting on an answer to the 3rd question asked on 17 June 2019. I received the reply to this question on 7 November.

Q3: Are local interest groups and HAL's own groups and forums (e.g. HSPG, LFF) appraised of how health issues are addressed by Heathrow airport and what are the key issues?

As with all of our environmental assessments, we've held sessions on the health assessment with HSPG and will continue to do so. For the last 18 months this has focused on the assessment methodology and baseline data, and covered briefings on the PEIR.

Charlotte Clark and Ben Cave presented at the LFF on 23rd April, please see attached the agenda, meeting notes, and presentation.

Please accept my sincerest apologies in getting this information over to you and please don't hesitate to ask should you need anything further.

[GL note: I was sent copies of LFF meeting notes for 23 April 2019 and a presentation given on this date – please see the following links:

<https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/local-community/local-focus-forum/2019/lff-meeting-notes-23-april-2019.pdf>

<https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/local-community/local-focus-forum/2019/lff-meeting-notes-10-september-2019-draft.pdf>]

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Friday, 06 December 2019

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