



#### AIRSPACE MODERNISATION AIRSPACE CHANGE **PROPOSAL**

ANNEX 3 - HEADLAND PRESENTATION & REPORT ON **COMMUNITY GROUP WORKSHOP** 



Heathrow

# Objectives of the workshop

- For Heathrow to understand the concerns raised in the letters from some of the Community Noise Group representatives dated 8 December and 4 January
- For the Community Noise Groups to have a further opportunity to share their views re Heathrow's proposed design principles for Airspace Modernisation
- For Heathrow to respond to the CNG's concerns and to provide further rationale for the design principles or propose changes to the current list of design principles

# Re-cap: what is a design principle?

- The CAA's CAP1616 process requires us to develop design principles to be applied to the airspace change design. Design principles help our airspace designers to create and compare different design options when we reach Stage 2 of the process.
- The design principles encompass the safety, environmental and operational criteria and the strategic policy objectives that we seek to achieve through the airspace change.
- Design principles can be grouped into broad themes such as:
  - Safety
  - Policy
  - Noise
  - Environment
  - Technology
  - Operational Performance

#### **Prioritisation**

Discussions aim to identify common priorities amongst stakeholders, although the CAA acknowledges that unanimous agreement on the principles is unlikely: some of the design principles may contradict one another and some may be prioritised over others.

# Re-cap: how are design principles used?

- Design Principles help the airspace designers to create a broad range of design options that meet the various, and sometimes conflicting, objectives of stakeholders.
- The design options are only evaluated against the design principles in Stage 2A. After that, all shortlisted options are assessed using the formal methodology and metrics laid out in CAP1616 which refers to policy
- However, design principles provide a framework for assessing design options at the earliest stage of the design process and for ensuring that local priorities are taken into account.

# Heathrow's Proposed Design Principles for Airspace Modernisation

	Proposed Design Principles (7 January 2022)	Points from 4 Jan letter	
	1. Be safe for all stakeholders		
	2. Remain in accordance with the CAA's published Airspace Modernisation Strategy and any current or future plans associated with it and all other relevant UK Policy, Legislation and Regulatory Standards. This includes preventing any worsening of local air quality due to emissions from Heathrow's aircraft movements, to remain within local authorities' limits	t 1, 6	
Our	3. Use noise efficient operational practices to limit and, where possible, reduce adverse impacts from aircraft noise	2	
airspace design must	4. Reduce the contribution to climate change from CO <sub>2</sub> emissions, and other greenhouse gas emissions relating to Heathrow's aircraft activities*		
	*ANG2017 states that noise is the priority below 4000ft and also the priority between 4000ft and 7000ft, so long as CO <sub>2</sub> is not disproportionately increased Providing some types of noise mitigation measures below 7000ft is likely to negatively impact CO <sub>2</sub> emissions of aircraft in flight. However, the airspace design must still enable overall CO <sub>2</sub> reductions for the Heathrow operation.	<mark>d</mark> . 4	
	5. Enable Heathrow to make the most operationally efficient and resilient use of its existing two runways, to maximise benefits to the airport, airlines and cargo handlers, passengers, and local communities		
	6. Provide predictable and meaningful respite to those most affected by noise from Heathrow's movements	8	
	7. Avoid overflying the same communities with multiple routes including those to/from other airports		
And	8. Minimise the negative impacts of night flights		
should also	9. Keep the number of people who experience an increase in noise from the future airspace design to a minimum	3, 5	
	10. Keep the total number of people who experience noise from the future airspace design to a minimum	3, 7	
	11. Enable the efficiency of other airspace users' operations		
	12. Minimise the impact to all stakeholders from future changes	Headland	

Our airspace design must be safe for all stakeholders

# Points from 4 January letter:

None

1, 6

# **Proposed Design Principle 2:**

Our airspace design must remain in accordance with the CAA's published Airspace Modernisation Strategy and any current or future plans associated with it and all other relevant UK Policy, Legislation and Regulatory Standards. This includes preventing any worsening of local air quality due to emissions from Heathrow's aircraft movements, to remain within local authorities' limits

# **Proposed Design Principle 3:**

Our airspace design must use noise efficient operational practices to limit and, where possible, reduce adverse impacts from aircraft noise



# **Proposed Design Principle 4:**

Our airspace design must reduce the contribution to climate change from CO2 emissions and other greenhouse gas emissions relating to Heathrow's aircraft activities



<sup>\*</sup>ANG2017 states that noise is the priority below 4000ft and also the priority between 4000ft and 7000ft, so long as  $CO_2$  is not disproportionately increased. Providing some types of noise mitigation measures below 7000ft is likely to negatively impact  $CO_2$  emissions of aircraft in flight. However, the airspace design must still enable overall  $CO_2$  reductions for the Heathrow operation.

# **Proposed Design Principle 5:**

Our airspace design must enable Heathrow to make the most operationally efficient and resilient use of its existing two runways, to maximise benefits to the airport, airlines and cargo handlers, passengers, and local communities

8

# **Proposed Design Principle 6:**

Our airspace design should also provide predictable and meaningful respite to those affected by noise from Heathrow's movements

# **Proposed Design Principle 7:**

Our airspace design should also avoid overflying the same communities with multiple routes including those to/from other airports



# **Proposed Design Principle 8:**

Our airspace design should also minimise the negative impacts of night flights

3, 5

# **Proposed Design Principle 9:**

Our airspace design should also keep the number of people who experience an increase in noise from the future airspace design to a minimum

3, 7

# **Proposed Design Principle 10:**

Our airspace design should also keep the total number of people who experience noise from the future airspace design to a minimum

# **Proposed Design Principle 11:**

Our airspace design should also enable the efficiency of other airspace users' operations

# **Proposed Design Principle 12:**

Our airspace design should also minimise the impact to all stakeholders from future changes to Heathrow's airspace

# General design principle comments

(6) Importance of "Fairness"

(9) Distinction between "must" and "should"

Opportunity for comments about design principles context and engagement process

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# DESIGN PRINCIPLES ENGAGEMENT

Report of Heathrow / Community Noise Groups meeting, 7 January 2022

#### **Background**

This report provides a minute of the meeting between representatives of Heathrow and of Community Noise Groups (CNGs), held virtually on 7 January 2022, as part of Heathrow's engagement on design principles for airspace modernisation. The report was prepared by Headland Consultancy, who had been engaged by Heathrow to independently chair and minute the meeting.

#### The meeting followed:

- A series of workshops in November and December 2021, where Heathrow presented the latest proposed design principles and associated rationale to CNGs and other stakeholders.
- A letter signed by a number of CNG representatives on 8 December 2021, indicating that they disagreed with the proposed design principles.
- A response from Heathrow on 9 December 2021, asking the CNGs to elaborate on their concerns and inviting them a further workshop, which was accepted by the CNGs.
- A letter from the CNGs on 4 January 2022, setting out their objections and suggestions for certain principles. This letter provided structure to the discussions on 7 January.

#### **Attendees**



Englefield Green Action Group

**HCNF** Coordinator

Molesey Residents Association

Plane Hell Action Group

Richings Park Residents Association

Richmond Heathrow Campaign

Richmond Heathrow Campaign

The Windlesham Society

The Windlesham Society

Throughout this report, contributions are attributed to the organisation they came from rather than the individual.

#### **Introductory remarks**

0.1	Headland	Opened the meeting and introduced the role Headland was playing in chairing. Set out the objectives of the workshop, namely:
		<ul> <li>For Heathrow to understand the CNG concerns raised in the 8 December and 4 January letters</li> <li>For CNGs to explain their views in more detail</li> <li>For Heathrow to respond and explain their decisions on principles, or to agree changes to the principles.</li> </ul>
		Further noted that the focus of the discussion was specifically on the design principles. Concerns raised in the CNG letter about the evidence behind the decision making and how Heathrow has run the process of stakeholder engagement would be discussed, but that Heathrow intended to respond in writing on those, separately.
0.2	Heathrow	Reminded participants of the role that Design Principles play in airspace change, stating that:
		<ul> <li>They help the airspace designers to create a broad range of design options that meet the various, and sometimes conflicting, objectives of stakeholders.</li> </ul>
		<ul> <li>Design options are only evaluated against the design principles in Stage 2A. After that, all shortlisted options are assessed using the formal methodology and metrics laid out in CAP1616 which refers to policy.</li> <li>Design principles provide a framework for assessing design options at the earliest stage of the design process and for ensuring that local priorities are taken into account.</li> </ul>
		<ul> <li>It is common for some stakeholders to not agree with all principles. The principles reflect a range of differing views from different stakeholder groups.</li> </ul>
		Heathrow further explained three changes that had been made to the text of the proposed design principles since they were last shared with the CNGs.
0.3	HCNF coordinator	Acknowledged that design principles were unlikely to achieve approval from all stakeholders but that the CNG representatives were seeking unanimity among themselves. Added that, on behalf of the hundreds of thousands living around Heathrow, they want the best solution possible. To that end, they wanted to work with Heathrow and have a level, meaningful conversation throughout. They asked that Heathrow respond in writing to the letter in full, and that the response be shared with all CNGs.
0.4	Teddington Action Group	Stated that their main concern with the design principles was the status of Air Navigation Guidance, wanting to see it explicitly referred to, stating that it is binding on both Heathrow and the CAA. They felt this was especially important with respect to altitude-based priorities.
		Stated that Heathrow should pay attention to "significant adverse impacts of noise" rather than number of people impacted, and for Heathrow to investigate and

		respond on how it was going to measure such impacts.
		Stated that Heathrow should be fair in its airspace design, avoid property blight and inequitable impact.
		Stated that Heathrow should respond on how it applies the commitment to "meaningful respite".
		Stated that Heathrow should address the evidence on the impacts on performance-based navigation in creating greater concentration and indicate how it would avoid those adverse impacts.
0.5	Richmond Heathrow Campaign	Asked that throughout the remainder of the process, Heathrow give CNGs more time to engage. They felt there hadn't been enough time provided so far.
	Campaign	Asked that Heathrow publish its data and allow the CNGs to interrogate them themselves, acknowledging that the data did not exist in all cases.
		They criticised Stage 1 of the CAP1616 process as they feel sponsors should be required to engage on the Statement of Need. They also raised that the AMS states a forecast growth in traffic of 2% per annum but that the Climate Change Committee says only 0.7% is the maximum to stay within the 2050 Net Zero goal.
		Stated that Heathrow should commit to a total reduction in noise energy emitted by aircraft, allowing a conversation about how to share the benefits of that reduction, rather than allocating the impact of the increase.
0.6	Molesey Residents Association	Asked for an explanation of the "must" vs "should" distinction in the proposed design principles. Asked how decisions between the "should" principles would be made when those principles come into conflict with each other.
		Stated their fear that these principles could enable Heathrow to seek greater concentration of routes, thereby affecting a smaller number of people with more noise.
		Stated that, without the methodology and decision-making process being more transparent, Heathrow could effectively set aside certain principles and prioritise its own commercial interests in the evaluation selection of design options.
0.7	Heathrow	Responding to the points made in the opening remarks, Heathrow:
		<ul> <li>Committed to respond to all the points raised in the 4 January letter in writing.</li> <li>Noted that they were in complete agreement about the importance of ANG to the Airspace Change Process and would be coming to a suggestion on that point in the subsequent discussion.</li> </ul>
		<ul> <li>Noted that criticisms of the CAP1616 process were not for Heathrow to comment on, as they had to follow the process set out by the CAA.</li> <li>Noted that "must" principles were either legally mandatory or had been determined by Heathrow as essential. Design options that fail to meet these principles would be rejected at the evaluation stage. The "should" principles are what Heathrow would like to achieve, but might not be able to, and the principles might conflict with each other.</li> </ul>
		Noted that, in Stage 2, Heathrow would ideally develop options that meet all

		<ul> <li>12 design principles, but would potentially take through options that don't meet all of the "should" principles. Heathrow would use data to support their decisions and present all data and rationale to the CAA as their evidence base.</li> <li>Noted that there was no set methodology for Heathrow to decide between the options and it was for Heathrow to define that methodology, and then publish and justify its process, alongside its choice, when submitting to the CAA.</li> <li>Noted that failure to justify and provide evidence throughout the ACP process could result in a submission not being approved by the CAA at the relevant Gateway.</li> <li>Noted that Heathrow must take account of the views of many different stakeholders and to balance those trade-offs.</li> <li>Noted that Heathrow was able to make changes to the proposed design principles today, if everyone was in agreement, and subject to Heathrow's governance process.</li> </ul>
0.8	Outcome	Heathrow to respond to all the points raised in the 4 January letter in writing.

Our airspace design must be safe for all stakeholders.

1.1	Richmond Heathrow Campaign	Noted that Heathrow is very safe. Stated that their concern was if Heathrow wanted to add more movements, it could compromise safety.
1.2	Heathrow	Stated that this ACP is not about growth. Stated that Heathrow has no current plans to introduce mixed mode operations (notwithstanding the existing alternation and TEAM operations). Noted that it would need a separate planning process to exceed the existing 480,000 ATMs per year cap.
1.3	Outcome	No proposed changes to DP1.

#### **Proposed Design Principle 2**

Our airspace design must remain in accordance with the CAA's published Airspace Modernisation Strategy and any current or future plans associated with it and all other relevant UK Policy, Legislation and Regulatory Standards. This includes preventing any worsening of local air quality due to emissions from Heathrow's aircraft movements, to remain within local authorities' limits.

Ī	2.1	Teddington	Stated that they would like to see reference to Air Navigation Guidance explicitly in
		Action	this principle, including the specific requirement to avoid and where possible reduce
		Group	adverse impacts from noise.
			Reiterated that understanding more about adverse impacts from noise and how to measure them appropriately was crucial to Heathrow making appropriate decisions in meeting this principle.

2.2	Heathrow	Noted that while Heathrow believes ANG was implicitly included within the existing wording, they are happy to update the wording to make explicit reference to the ANG.  Reiterated 0.7, that Heathrow would be unlikely to get an ACP approved if it didn't
		follow ANG. <i>TAG</i> responded that this was reassuring.  Noted that Heathrow had not and does not intend to call out adverse impacts from noise within the design principle, because this would seem to elevate that requirement above other requirements in ANG.
2.3	Outcome	Heathrow to update DP2 to include explicit reference to the ANG, which was accepted by the CNGs.

Our airspace design must use noise efficient operational practices to limit and, where possible, reduce adverse impacts from aircraft noise.

3.1	Teddington Action Group	Asked that options to mitigate noise impacts through steeper departures and arrivals be investigated, noting that they are included within ANG. Stated that any objection from the airlines with respect to steeper ascents would be greater fuel consumption, but that ANG prioritises noise above such considerations.
3.2	Richmond Heathrow Campaign	Noted the request in the 4 January letter for Heathrow to amend this principle to include "exploring" height in operational practices.  Requested that Heathrow provide a timeline for its development of design options and regular engagement to give the CNGs confidence on the pathway Heathrow is following.
3.3	Heathrow	<ul> <li>They agreed the priority was noise, and that was clear in ANG, which was now referred to in DP2.</li> <li>The CAA had given feedback in the past to avoid "solutioneering" through the design principles, which Heathrow felt including references to steeper departures and arrivals would be categorised as.</li> <li>Noted that steeper departures and arrivals were the operational practices that would be investigated, and suggested including reference to this in the explanatory notes in the design principles submission to the CAA. This was accepted by the CNGs.</li> <li>Regarding 3.2, that Heathrow were in the process of developing the engagement strategy for Stage 2 and would share that with HCNF members.</li> </ul>
3.4	Outcome	No proposed changes to DP3.  Heathrow to include reference to steeper departures and arrivals in the explanatory notes in the design principles submission to the CAA.

Our airspace design must reduce the contribution to climate change from CO2 emissions, and other greenhouse gas emissions relating to Heathrow's aircraft activities\*

\*ANG2017 states that noise is the priority below 4000ft and also the priority between 4000ft and 7000ft, so long as CO2 is not disproportionately increased. Providing some types of noise mitigation measures below 7000ft is likely to negatively impact CO2 emissions of aircraft in flight. However, the airspace design must still enable overall CO2 reductions for the Heathrow operation.

4.1	Teddington Action Group	Stated that the asterisked wording confuses the intention of ANG, by suggesting that Heathrow will go outside of ANG to prioritise CO2 / fuel savings over noise. Suggested that it was up to Heathrow to generate options to reduce CO2 within ANG noise requirements. Added that Heathrow had reported in the past that other stakeholders put a greater priority on carbon reductions over noise reductions, but that this wasn't in keeping with ANG, and that these stakeholders might not be affected by noise in the same way as those the CNGs represented.  Suggested removing the asterisked wording.
4.2	Richmond Heathrow Campaign	Stated they could see plenty of scenarios where Heathrow applied ANG17 fully and increased CO2 emissions.  Suggested that the "disproportionately" language of ANG allows for CO2 to increase. Noted that, with departures from Heathrow amounting to 18m of the UK's 40m tonnes of aviation emissions, the CO2 savings from airspace changes between 4000 and 7000 feet would be relatively minimal, compared to the significant noise impacts.  Suggested the language be amended to commit to reducing carbon emissions "as far as possible".
4.3	Richmond Heathrow Campaign	Stated that as a pilot they would understand reductions in CO2 to lead to direct departures and direct approaches. Their interpretation of this principle was that it meant nothing else mattered relative to reducing CO2.  They reiterated the point from 4.2 that route changes could result in minimal CO2 impacts relative to large noise impacts.
4.4	HACAN	Asked how carbon emission savings will be calculated and how these savings will be compared against potential noise increases. Suggested the savings from other possible changes, e.g., fuel and aircraft, were much larger than from airspace change.
4.5	Englefield Green Action Group	Asked where the aircraft had to be flying to count as producing carbon emissions for these purposes.  Also asked what "disproportionately" meant in this context. Does a 5% increase in noise impacts (however measured) trade-off equally against a 5% reduction in carbon emissions?

4.6	Heathrow	Heathrow responded that:
		<ul> <li>This design principle does not prioritise carbon over noise, as this wouldn't be allowed under ANG.</li> <li>Their intention in including the asterisked language was to allay concerns that Heathrow was putting carbon ahead of ANG's noise impact requirements when this wasn't the case. Evidently the wording had confused the intention rather than clarifying it. Suggested that Heathrow would look at remove the asterisked wording, and if so, the change would be shown in the table of how the principles evolved which was accepted by the CNGs.</li> <li>Noted that Heathrow's intention with this principle was to set itself the commitment to reduce carbon emissions through this airspace change, while still meeting noise and other requirements in ANG. Further noted that design options which failed to both reduce carbon emissions AND comply with ANG regarding noise would be rejected at evaluation stage.</li> <li>Noted the view of other stakeholders in this engagement process that noise is a local issue, whereas carbon is global, and that Heathrow has responsibilities to both.</li> <li>Suggested Heathrow would consider including the language "as far as possible", which was accepted by CNGs.</li> <li>Regarding 4.4, that Heathrow did not yet know the scale of the impacts and needed to do the modelling as part of the evaluation.</li> <li>Regarding 4.5, that they understood carbon to be measured at 0-4000 feet, 4-7000 feet and to the UK FIR boundary, but noted that the Heathrow representatives on the call were not experts in this area.</li> <li>Regarding 4.5, noted that "disproportionately" is taken from ANG, but not defined by CAA or DfT. It is for Heathrow to decide upon and justify its interpretation and approach.</li> </ul>
4.7	Outcome	Heathrow to consider removing the asterisked wording from DP4.  Heathrow to consider adding the wording "as far as possible" to DP4.

Our airspace design must enable Heathrow to make the most operationally efficient and resilient use of its existing two runways, to maximise benefits to the airport, airlines and cargo handlers, passengers, and local communities.

5.1	Outcome	No comments or concerns with DP5. No proposed changes.

Our airspace design should also provide predictable and meaningful respite to those most affected by noise from Heathrow's movements

6.1	Teddington Action Group	Stated that research is needed to define how Heathrow introduces respite to ensure it is meaningful.  Questioned whether Heathrow has enough space available to it to separate routes sufficiently to generate meaningful respite.  Noted that respite is especially relevant to those in south London who are affected by aircraft from two airports.
6.2	Heathrow	<ul> <li>"Meaningful" is included in the design principle to ensure that the respite options Heathrow creates are genuinely beneficial. Noted that the work is ongoing to define that, and the findings would be shared through HNCF.</li> <li>Agreed to including mention of work to define meaningful respite in the explanatory notes.</li> <li>The impact of routes from other airports is addressed in DP7.</li> </ul>
6.3	Outcome	No proposed changes to DP6.  Heathrow to include the need to complete work to define meaningful respite in the explanatory notes to DP6.

#### **Proposed Design Principle 7**

Our airspace design should also avoid overflying the same communities with multiple routes including those to/from other airports

7.1	HACAN	Questioned why this principle is included when it is not entirely within Heathrow's control and other airports are more advanced with their ACPs. Suggested it might be impossible for Heathrow to deliver.  Also noted that some communities are affected by final approach and there is no option for airspace to provide respite for them.
7.2	Molesey Residents Association	Stated their strong support for this principle.
7.3	Heathrow	<ul> <li>Acknowledged that other airports could have an impact, hence why this was a "should" not a "must" principle.</li> <li>Noted that while other airports were more advanced currently, the CAA would require airports with an impact on each other's current or future airspace to come together at Stage 3. Hence the cumulative effects of design options from different airports would have to be considered together.</li> <li>Agreed that it was not possible for airspace change to provide respite for all communities such as those living under the immediate climb out of</li> </ul>

		departures, hence this is a "should" principle. However, they noted that there was potential mitigation available through runway alternation and other operational procedures.
7.4	Outcome	No proposed changes to DP6.

Our airspace design should also minimise the negative impacts of night flights

8.1	Teddington Action Group	Noted that the night flights regime is due for review and that the CNGs are challenging the existing regime.
8.2	Heathrow	Noted that Heathrow had received many comments about night flights and wanting them banned throughout the stakeholder engagement.  Noted that prevalence of night flights is an operational issue not an airspace design issue however, they wanted to acknowledge the feedback and include night flights within the design principles to explore what could be done to minimise the impact of night flights within design options.
8.3	Outcome	No proposed changes to DP8.

#### **Proposed Design Principle 9**

Our airspace design should also keep the number of people who experience an increase in noise from the future airspace design to a minimum.

9.1	Teddington Action Group	Stated all references in the design principles to "numbers of people" should be removed. Stated that CNGs were sensitive to references to "numbers of people", as historically noise impact was measured as a "numbers game", with no reference to the scale of impact.
		Referred to the suggestion in the CNGs' letter for this principle to read "no new people affected by noise", and qualified it with an overall consideration that no community currently impacted by noise should be exposed to greater noise levels as a result of airspace modernisation.
		Referred back to the point made at 0.4, the need for Heathrow to understand and report on the nature of adverse impacts from noise.
9.2	Molesey Residents Association	Stated that this principle and DP10 lead to fears that there will be a concentration of flights. Suggested eliminating this principle and DP10, replacing it with "minimise increases in noise from future airspace design", giving Heathrow more flexibility, and giving greater reassurance to communities concerned about concentration.
9.3	Englefield Green Action	Noted that past noise complaints during the Heathrow 2014 PBN Trial Flights extended significantly beyond LOAEL (Lowest Observed Adverse Effect Level) 51dB noise contour, as identified by the Heathrow-commissioned 2015 Anderson

	Group	Acoustics report on the 2014 PBN trials. Asked whether the LOAEL needed to be
		revised.
9.4	Richmond Heathrow Campaign	Asked whether Heathrow was intending to make changes based on the legacy airspace design or to start from a blank sheet of paper. Suggested the outcomes would be very different depending on the approach.  Repeated the request for the principle to be "no new people affected by noise".
9.5	Heathrow	<ul> <li>Much of the discussion here applied to DP10 as well.</li> <li>Heathrow does not approach evaluation as a "numbers game" but that numbers of people is taken into consideration. Reference to number of people is included within ANG, and CAP1616 requires airports to report on the number of people affected within each contour and beyond the LOAEL.</li> <li>Heathrow must mitigate significant effects within the LOAEL and are then required to report on numbers overflown beyond the LOAEL. Local Authorities have asked for this principle to be included and the Secretary of State call-in process considers number of people. It is therefore something that Heathrow to consider.</li> <li>At the evaluation stage, to get more precise than looking at pure numbers, Heathrow will assess finer breakdowns within contours, effectively contours within contours, but at a certain point the number of people affected by a given amount of noise is a determining factor. Stated that it may be possible to generate metrics in addition to those required by CAP1616 and that this would be discussed with HCNF members once the evaluation methodology has been set.</li> <li>It was impossible for Heathrow to commit to "no new people affected by noise" as to do so would require that the routes not change at all. Stated that moving routes requires affecting new people, and that this principle called for that impact to be minimised.</li> <li>Regarding 9.2, stated that this principle and DP10 do not default to greater concentration. Acknowledged that some design options will be more concentrated and others not, and that evaluating between these options would allow Heathrow to understand how to share noise over the fewest number of people.</li> <li>Regarding 9.3, stated that LOAEL is set in DfT policy and limits the boundaries within which Heathrow can consider adverse effects. Not for Heathrow to change that policy.</li> </ul>
9.6	Outcome	No proposed changes to DP9.

Our airspace design should also keep the total number of people who experience noise from the future airspace design to a minimum.

10.1	Teddington Action Group	Asked that Heathrow complete and publish the work previously committed to on the effects of PBN before designing the new airspace.
10.2	Englefield Green Action Group	Strongly endorsed the previous comments regarding concentration, based on prior experience of the 2014 PBN trials. Stated that this principle gave Heathrow "carte blanche" to concentrate routes and penalise the few for the benefit of the many.
10.3	Molesey Residents Association	Asked whether Heathrow had considered a principle to require the sharing of the impacts of noise. Suggested that it was possible to agree metrics for the extent of sharing and to make evaluations on that basis.
10.4	Richings Park Residents Association	Stated that this principle required Heathrow to concentrate noise and prevented any mitigation of impacts through sharing.
10.5	Heathrow	<ul> <li>Heathrow responded that:</li> <li>The work to understand the lessons of PBN implementation elsewhere was important and would be shared. Stated that the experience of US airports in implementing PBN gave lessons to be learned and needed to be learned to avoid failing the requirements of ANG.</li> <li>Sharing noise was the main tool available to mitigate the effects of concentration and of noise more generally. Would be evaluated throughout the design process to achieve the requirements of ANG.</li> <li>An explicit sharing principle had been considered by Heathrow but it was felt that "sharing" is too subjective and difficult to measure. Pointed to DP6 as an example of how Heathrow would seek to achieve sharing in practice.</li> </ul>
10.6	Outcome	No proposed changes to DP10.

#### **Proposed Design Principle 11**

Our airspace design should also enable the efficiency of other airspace users' operations.

11.1	Outcome	No comments or concerns with DP11. No proposed changes.

#### **Proposed Design Principle 12**

Our airspace design should also minimise the impact to all stakeholders from future changes.

12.1	Outcome	No comments or concerns with DP12. No proposed changes.

### **Concluding remarks**

13.1	Heathrow	Committed to responding in writing to all the points raised in the 4 January letter.
		Thanked all the CNG representatives for the substance of their engagement and the constructive tone of the conversation.
		Reminded representatives that the updated and final design principles would be shared at the upcoming HCNF on 26 January, prior to submission to the CAA.
13.2	Headland	Reiterated thanks to all participants, including the Heathrow representatives who contributed at length.
		Reminded representatives that the minutes of this meeting would be shared shortly.