Department for Communities and Local Government

Department for Transport

Our Ref: APP/R5510/A/14/2225774
Your Ref: 41473/APP/2013/1288

Heathrow Airport Limited
The Compass Centre
Nelson Road
London Heathrow Airport
HOUNSLOW
TW6 2GW

2 February 2017

Dear Sirs

TOWN AND COUNTRY PLANNING ACT 1990 – SECTION 78
APPEAL MADE BY HEATHROW AIRPORT LIMITED
ENABLING WORKS TO ALLOW IMPLEMENTATION OF FULL RUNWAY ALTERNATION DURING EASTERLY OPERATIONS AT HEATHROW AIRPORT
APPPLICATION REF: 41573/APP/2013/1288

1. We are directed by the Secretaries of State for Communities & Local Government and for Transport (the Secretaries of State) to say that consideration has been given to the report of L Rodgers BEng(Hons) CEng MICE MBA who held a public local inquiry, which opened on 19 June 2015 and which was closed in writing on 4 August 2015, into your Company's appeal against the decision of the London Borough of Hillingdon (LBH) to refuse planning permission for enabling works to allow implementation of full runway alternation during easterly operations at Heathrow Airport, in accordance with application ref 41473/APP/2013/1288 refused by notice dated 21 March 2014.

2. On 23 October 2014 this appeal was recovered for determination by the Secretaries of State in pursuance of s266(1) of the Town and Country Planning Act 1990.

Inspector's recommendation and summary of the decision

3. The Inspector recommended that the appeal be allowed and planning permission granted.

4. For the reasons given below, the Secretaries of State agree with the Inspector's conclusions and recommendations. A copy of the Inspector's report (IR) is enclosed. All references to paragraph numbers, unless otherwise stated, are to that report.

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Department for Transport
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Aviation Policy Division
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London SW1P 4DR

Representations received following the closure of the inquiry

5. On 26 January 2016, the Secretaries of State wrote to the appeal parties to afford them an opportunity to comment on any implications for the cases which they had put at the inquiry of the Inspector's recommendation that, if the appeal were to be allowed, the noise insulation scheme should be made available to those households which would otherwise only be entitled to relocation assistance. This was in accordance with the Inspector's recommendation at IR1192; and a list of representations received in response to this letter is at Annex A. All the representations received, with the exception of that from HAL, strongly supported the Inspector's recommendation as a minimum. HAL considered that any such condition should await a full review of aviation policy and airspace change, but they indicated that they would not resist the additional condition recommended by the Inspector.

6. Annex A, also includes a list of general post-inquiry representations received from parties. Copies of all these letters may be obtained on written request to the DCLG address at the foot of the first page of this letter.

Environmental Statement

7. In reaching their decision, the Secretaries of State have taken into account the Environmental Statement (ES) which was submitted under the Town and Country Planning (Environmental Impact Assessment) Regulations 2011. Having taken account of the Inspector's conclusions on the ES at IR949-951 and the preceding arguments on which they are based, the Secretaries of State are satisfied that, despite its shortcomings, the ES complies with the above Regulations and that sufficient environmental information has been provided for them to assess the environmental impacts of the proposal.

Statutory and policy considerations

8. In reaching their decision, the Secretaries of State have had regard to section 38(6) of the Planning and Compulsory Purchase Act 2004 which requires that proposals be determined in accordance with the development plan unless material considerations indicate otherwise.

9. In this case the adopted development plan for the area comprises the London Plan, the LBH's Local Plan and the Further Alterations to the London Plan Document, published in March 2015. The Secretaries of State consider that the development plan policies of most relevance to this case are those set out at IR847-850.

10. Other material considerations which the Secretaries of State have taken into account include the National Planning Policy Framework ('the Framework') and associated planning guidance ('the guidance'); the Noise Policy Statement for England (NPSE) (IR853); and the Aviation Policy Framework (APF) (IR854).

Main issues

11. The Secretaries of State agree with the Inspector that the main issues are those set out at IR844.

Green Belt

12. The Secretaries of State have taken account of the policy position as set out by the Inspector at IR952-957, and agree with him at IR957 that, where there is an

inconsistency between development plan policies and the Framework, the weight accorded to the development plan policies must be reduced in accordance with paragraph 215 of the Framework. For the reasons given at IR958-965, the Secretaries of State agree with the Inspector at IR965 that, where the proposed acoustic barrier would be located in the Green Belt, it should be deemed inappropriate development and should not be approved except in very special circumstances. Furthermore, having carefully considered the Inspector's discussion on the effect of the proposed development on openness at IR966-967, the Secretaries of State agree with his conclusion at IR967 that the proposed barrier would materially and adversely affect the openness of the Green Belt. The Secretaries of State have gone on to consider these harms in the context of the overall balance to determine whether the very special circumstances necessary to justify the development exist (see paragraphs 18-19 below).

Character and appearance of the area

13. The Secretaries of State agree with the Inspector (IR968) that the proposed works within the airport boundary, save for the proposed barrier, are minor and consistent with the existing airport infrastructure so that they would have no material impact on the area's character and appearance. They also agree that, for the reasons given at IR969-970, the proposed barrier would result in some limited harm to the general character and appearance of the area contrary to UDP policies BE13 and BE19. However, for the reasons given at IR971, the Secretaries of State agree with the Inspector that the proposed barrier would not affect the significance of the nearby conservation area. They also agree with the Inspector that the proposed noise barrier needs to be taken into account in assessing the impact on the Green Belt and on the character and appearance of the area in the overall planning balance (see paragraph 22 below).

Living conditions - noise

14. The Secretaries of State agree with the Inspector at IR840 that the Government's decision that the Cranford Agreement should be ended means that the issue that lies at the heart of this appeal is whether the proposed mitigation and compensation measures for those likely to be affected by the proposals can be regarded as "appropriate".

15. On this basis, and having carefully considered the points made by the Inspector at IR972-1115, along with the comments received in response to the reference back exercise referred to at paragraph 5 above, the Secretaries of State agree with the Inspector's conclusions within those paragraphs and at IR1116-1122 on mitigation and compensation for noise. In particular, the Secretaries of State have given careful consideration to, and agree with, the Inspector's analysis and conclusions on the impact of noise on residential properties (IR1081-1100). They also agree with him that HAL's proposed mitigation in regard to schools can be regarded as appropriate (IR1111); and with regard to his conclusions on community buildings and outdoor areas (IR1112-1113). Furthermore, they agree that the noise barrier would form an appropriate part of the overall mitigation package (IR1116).

16. With regard to the Inspector's conclusions on the impact of noise on living conditions (IR1117-1122), the Secretaries of State agree with him that the noise mitigation measures proposed by your Company should be supplemented by the provision of the "Cranford-specific" insulation scheme to which the Inspector refers at IR1122 and which he proposes should be imposed as a condition in granting planning permission (see paragraph 20 below). They agree with the Inspector that such measures would be proportionate, particular to the development, adequate and appropriate, and in

compliance with the development plan, the Framework and guidance and the NPSE. They also consider that it would be in line with the expectation of the Coalition Government, when announcing the cessation of the Cranford Agreement in 2010, that appropriate mitigation and compensation measures would be provided for those likely to be adversely affected by the ending of that Agreement (IR18).

Living conditions – air quality

17. Turning to the issue of air quality, the Secretaries of State have carefully considered the Inspector's review of the policy and guidance framework applicable to air quality (IR1132-1139) and his assessment of effects (IR1140-1158); and they agree with his conclusion at IR1158 that there would seem to be little doubt that the development would lead to a worsening of some already significant exceedances of the EU limit value. With regard to mitigation (IR1159-1170), the Secretaries of State agree with the Inspector's conclusions at IR1171 that mitigation of the air quality effects of the proposed development is necessary and justified and that the proposed mitigation would be reasonable, proportionate and sufficient to adequately mitigate the adverse effects of the development so that there would be no conflict with the development plan in this regard.

Whether other considerations amount to very special circumstances

18. For the reasons given at IR1172-1175, the Secretaries of State agree with the Inspector that the noise barrier is a necessary part of the development which is intended to implement Government policy to redistribute noise more fairly around the airport; and that the public interest benefits that would result from the development (with appropriate mitigation) should carry very substantial weight in favour of the scheme (IR1173). The Secretaries of State also give moderate weight to the benefit which the barrier would bring in terms of operational robustness and some modest weight in favour of the development to the beneficial effects which would be experienced elsewhere (IR1175). However, they also agree with the Inspector (IR1174) that it would not be appropriate to discuss any change to the Green Belt boundary in the context of this appeal.

19. The Secretaries of State have gone on to consider whether the material considerations identified in the previous paragraph as benefits of the scheme amount to very special circumstances which would outweigh the harm caused by the construction of that part of the noise barrier in the Green Belt (as identified at paragraph 11 above) and, for the reasons given by the Inspector at IR1176-1177, they agree with his conclusion at IR1178 that the very special circumstances necessary to justify the development do exist.

<u>Planning conditions</u>

20. The Secretaries of State have considered the Inspector's analysis at IR1179-1192, the recommended conditions set out at the end of the IR and the reasons for them, national policy in paragraph 206 of the Framework and the relevant guidance. They are satisfied that the conditions recommended by the Inspector, including the "Cranford-specific" condition which now forms condition 9 (see paragraph 16 above), comply with the policy test set out at paragraph 206 of the Framework and that the conditions set out at Annex B should form part of their decision. The NPSE and the APF require airport operators, when considering developments which result in an increase in noise, to ensure that they offer "appropriate compensation" to those potentially affected. The Secretaries of State accept that imposing this additional condition goes beyond the minimum expressly referred to in the APF, by imposing an enhanced mitigation package beyond that minimum. They nevertheless consider the enhanced mitigation required by this additional

condition to be appropriate in this case and necessary to make this proposal acceptable to those most directly adversely affected by this scheme, for the reasons given by the Inspector at IR1122.

Planning obligations

21. Having had regard to the Inspector's analysis at IR1193-1203, the two Unilateral Undertakings submitted on 22 July 2015, paragraphs 203-205 of the Framework, the guidance and the Community Infrastructure Levy Regulations 2010 as amended, the Secretaries of State agree with the Inspector's conclusion at IR1203 that these obligations comply with Regulations 122 and 123 of the CIL Regulations and the tests at paragraph 204 of the Framework and are necessary to make the development acceptable in planning terms, directly related to the development, and fairly and reasonably related in scale and kind to the development.

Planning balance and overall conclusion

22. For the reasons given above, the Secretaries of State consider that the appeal scheme is in general accordance with the development plan as a whole. For the reasons given above, they also consider that the appeal scheme is in general compliance with relevant national policy and guidance. With regards the Inspector's proposed additional condition, they consider that, whilst it goes beyond the minimum expectation expressly referred to in current national policy and guidance, it is consistent with the expectation that compensation be appropriate and that the additional mitigation it would provide is necessary to make this proposal acceptable. Although those parts of the acoustic barrier located in the Green Belt would constitute inappropriate development, with some harm to the openness of the Green Belt and the character and appearance of the area, the Secretaries of State are satisfied that there are very special circumstances to justify its construction. They are also satisfied that the proposed mitigation measures, including the "Cranford-specific" compensation scheme proposed by the Inspector, would be adequate to mitigate the adverse effects of the development. The Secretaries of State therefore conclude that the appeal be allowed and planning permission granted.

Public Sector Equality Duty

23. In accordance with section 149 of the Equality Act 2010, due regard has been given to the need to (a) eliminate discrimination, harassment, victimisation; (b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; and (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The Secretaries of State have considered the protected characteristics of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, and sexual orientation. They have concluded that noise is the only factor which could give rise to any disproportionate impacts on persons with protected characteristics in respect of section 149(1) (a-c).

24. The Secretaries of State have also concluded that, in relation noise impacts, allowing the appeal would have disproportionate negative impacts on those persons living in the vicinity of Heathrow Airport with the protected characteristics of race (people of Asian/Asian British ethnicity) and religion or belief (Muslim and Sikh religion) as compared with persons living in the vicinity who do not share these characteristics. However, the Secretaries of State have also concluded that imposing the additional condition recommended by the Inspector could reduce those disproportionate negative

impacts on those persons as they could benefit from the enhanced mitigation provided by the condition and those persons are disproportionately affected by the adverse noise impacts of this proposal. The Secretaries of State have also concluded that allowing the appeal, whether or not the additional condition is imposed, would have disproportionate positive impacts on persons with the protected characteristics of race (white people) and religion or belief (Christian) as compared with persons living in the vicinity who do not share these characteristics.

Formal decision

25. Accordingly, for the reasons given above, the Secretaries of State agree with the Inspector's recommendation. They hereby allow your company's appeal and grant planning permission subject to the conditions set out at Annex B of this letter for enabling works to allow implementation of full runway alternation during easterly operations at Heathrow Airport, in accordance with application ref: 41473/APP/2013/1288 refused by notice dated 21 March 2014.

26. An applicant for any consent, agreement or approval required by a condition of this permission for agreement of reserved matters has a statutory right of appeal to the Secretaries of State if consent, agreement or approval is refused or granted conditionally or if the Local Planning Authority fail to give notice of their decision within the prescribed period.

27. This letter does not convey any approval or consent which may be required under any enactment, bye-law, order or regulation other than section 57 of the Town and Country Planning Act 1990.

Right to challenge the decision

28. A separate note is attached setting out the circumstances in which the validity of the Secretaries of State's decision may be challenged. This must be done by making an application to the High Court within 6 weeks from the day after the date of this letter for leave to bring a statutory review under section 288 of the Town and Country Planning Act 1990.

29. A copy of this letter has been sent to the Council and Rule 6 parties and notification sent to others who asked to be informed of the decision.

Yours faithfully

Jean Nowak *Ian Elston*

Jean Nowak **Ian Elston**

Authorised by Secretaries of State to sign in that behalf

Annex A

RECOVERED APPEAL: WORKS TO ENABLE FULL RUNWAY ALTERNATION DURING EASTERLY OPERATIONS AT HEATHROW AIRPORT: SCHEDULE OF REPRESENTATIONS

Representations received in response to the Secretary of State's letter of 26 January 2016

Party	**Date**
Cllr George Bathurst	26 January 2016
Cllr Gurpal Virdi	31 January 2016
Cllr John Bowden	17 February 2016
Cllr John Lenton & Margaret Lenton	17 February 2016
Cllr Malcolm Beer and Cllr Lynne Jones	17 February 2016
Hazel Cooper	17 February 2016
Stephen Allen, Heathrow Airport Limited	17 February 2016 and 17 March 2016
Colin Stanbury, Local Authorities' Aircraft Noise Council	17 February 2016
Mr Galwant Gill	17 February 2016
Mr P Tomson, Spelthorne Borough Council	17 February 2016
Wraysbury Parish Council	17 February 2016
Sarah White, LB Hillingdon – joint response obo Greater London Authority, LB Hillingdon and LB Hounslow	22 February 2016, 23 February 2016 and 17 March 2016
Colnbrook with Poyle Parish Council	17 March 2016

General post-inquiry Representations

Party	**Date**
Sandy Kidd, Historic England	15 June 2015
Cllr John Lenton	18 June 2015
Wisdom Da Costa	19 October 2015
Sarah Berwick	29 October 2015

[Page not used]

Annex B

Conditions

1. The development hereby permitted shall begin not later than three years from the date of this decision.
2. The development hereby permitted shall be carried out in accordance with the following approved plans:

   Fig 2.1_29528-A91 Current Airfield Layout
   10000-XX-GA-100-000191 v. 1.0 Site Location Plan
   10000-XX-GA-100-000192 v. 1.0 Proposed Layout Plan
   10000-XX-GA-100-000193 v. 1.0 New Pavement and Breakout Areas
   10000-00-GA-XXX-000149 v. 1.0 Noise Barrier Detailed Plan A
   10000-00-GA-XXX-000150 v. 1.0 Noise Barrier Detailed Plan B
   10000-00-GA-XXX-000151 v. 1.0 Noise Barrier Detailed Plan C
   10000-00-GA-XXX-000148 v. 1.0 Noise Barrier General Arrangement
   10000-00-GA-XXX-000143 v. 3.0 Noise Barrier Section AA
   10000-00-GA-XXX-000144 v. 1.0 Noise Barrier Section BB
   10000-00-GA-XXX-000153 v. 2.0 Site Boundary for construction and site
   10000-00-GA-XXX-000145 v. 2.0 Site Compound and Access Route
   10000-00-GA-XXX-000142 v. 4.0 Noise Barrier Site Location Plan
   10000-00-SE-XXX-000001 v. 1.0 Noise Barrier Typical Cross Sections

3. No development shall take place until a noise barrier landscaping scheme has been submitted to and approved in writing by the local planning authority. The scheme shall include detailed planting plans, a planting specification and a schedule of landscape maintenance for a minimum period of 5 years from implementation. The approved landscaping scheme shall be implemented in the first planting season following completion of the noise barrier and shall thereafter be maintained in accordance with the approved schedule of landscape maintenance.
4. No development shall take place until full details of the noise barrier have been submitted to and approved in writing by the local planning authority. The details shall include:

   i. the materials to be used in both the lower three metres and the upper transparent two metre element

   ii. details of the acoustic properties of the barrier and the noise reduction provided by the materials/structure

   iii. the means of bird avoidance for the transparent element

   iv. the means of supporting the fence structure.

   Scheduled Easterly Alternation shall not commence until the noise barrier has been fully installed in accordance with the approved details.

5. No development shall take place in Area A13E or LINK 59 until a written scheme of investigation (WSI) for these areas, having regard to the constraints involved when working near to operational runways and taxiways, as identified in the CAA publication CAP 168 (Licensing of Aerodromes) or any replacement or update of that publication, has been submitted to and approved by the local planning authority in writing. No development shall take place in Area A13E or LINK 59 other than in accordance with the

agreed WSI, which shall include the statement of significance and research objectives, and

- The programme and methodology of site investigation and recording and the nomination of a competent person or organisation to undertake the agreed works, and
- The programme for post-investigation assessment and subsequent analysis, publication & dissemination and deposition of resulting material. This part of the condition shall not be discharged until these elements have been fulfilled in accordance with the programme set out in the WSI.

6. No development shall take place, including any works of demolition, until a Construction Environmental Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved Plan shall be adhered to throughout the construction period.

   In relation to the proposed noise barrier, the Plan shall address the following construction related issues (but not limited to):

   1. Noise and Vibration Management;
   2. Air Quality;
   3. Water Quality;
   4. Ecology;
   5. Visual Impact; and
   6. Waste Management.

   In relation to the proposed airfield works, the Plan shall address Air Quality matters only.

   The measures set out within the Construction Environmental Management Plan shall have regard to best practice guidance and planning policy including, but not limited to, The Mayors 'The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance'.

7. No development shall take place, including any works of demolition, until a Construction Logistics Plan has been submitted to and approved in writing by the Local Planning Authority (in consultation with Transport for London). The Construction Logistics Plan shall include measures to manage all freight vehicle movements to and from the site identifying efficiency and sustainability measures to be undertaken during site construction of the development. The development shall not be carried out otherwise than in accordance with the approved Construction Logistics Plan or any approved amendments thereto as may be agreed in writing by the Local Planning Authority (in consultation with Transport for London).

8. No development shall take place until drainage details relating to the airfield works have been submitted to and approved in writing by the Local Planning Authority. Development shall thereafter take place in accordance with the approved details.

9. Any property which, after Scheduled Easterly Alternation has commenced, would experience external aircraft noise levels of 69dB LAeq 16hrs or more (referred to in the submitted obligations as a ‘Type A Property’) shall be offered, as an alternative to relocation assistance, noise insulation on the same terms and in the same form as a property which, after Scheduled Easterly Alternation has commenced, would experience an increase of 3dB or more which results in exposure to external aircraft noise levels of 63dB LAeq 16hrs or more (referred to in the submitted obligations as a ‘Type B Property’).

The Planning Inspectorate

Report to the Secretaries of State for Transport and for Communities and Local Government

by L Rodgers BEng (Hons) CEng MICE MBA

an Inspector appointed by the Secretary of State for Communities and Local Government

Date: 9 November 2015

TOWN AND COUNTRY PLANNING ACT 1990

APPEAL BY

HEATHROW AIRPORT LTD

AGAINST THE DECISION OF

THE COUNCIL OF THE LONDON BOROUGH OF HILLINGDON

CONCERNING

ENABLING WORKS TO ALLOW IMPLEMENTATION OF FULL RUNWAY ALTERNATION DURING EASTERLY OPERATIONS AT HEATHROW AIRPORT

Inquiry Held: 2-19 June 2015
Site Visits: 23 June 2015
Inquiry Closed in Writing: 4 August 2015

File Ref: APP/R5510/A/14/2225774

GLOSSARY

AC	Airports Commission
ACC	Adding Capacity at Heathrow: Consultation Document (DfT)
ACD	Adding Capacity at Heathrow: Decisions Following Consultation (DfT)
ACDM	Airport Collaborative Decision Making
ACS	The Closing Statement on behalf of the Authorities
ANASE	Attitudes to Noise from Aviation Sources in England
ANIS	Air Noise Index Study
APEC	Air Pollution Exposure Criteria
APF	Aviation Policy Framework
APU	Auxiliary Power Unit
AQMA	Air Quality Management Area
ATC	Air Traffic Control
ATM	Air Traffic Movement
ATWP	Air Transport White Paper
CA	Conservation Area
CAA	Civil Aviation Authority
CERC	Cambridge Environmental Research Consultants
CIL	Community Infrastructure Levy
DAP	Director of Airspace Policy (CAA)
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EEA	European Environment Agency
EIA	Environmental Impact Assessment
EiC	Examination in Chief
ERCD	Civil Aviation Authority - Environmental Research and Consultancy Department
ES	Environmental Statement
ExA	Examining Authority
HACC	Heathrow Area Consultative Committee
HAL	Heathrow Airport Limited
HEIA	Health and Equalities Impact Assessment
HYENA	Hypertension and Exposure to Noise near Airports Study
IAQM	Institute of Air Quality Management
IEMA	The Institute of Environmental Management & Assessment
IPC	Infrastructure Planning Commission
LBH	London Borough of Hillingdon
LBHo	London Borough of Hounslow
LOAEL	Lowest Observed Adverse Effect Level
LoP	London Plan (2015)
LP	Hillingdon Local Plan Part 1: Strategic Policies (2012)
LPA	Local Planning Authority (LBH)
MoL	Mayor of London
NAP	Heathrow Airport Noise Action Plan
NATS	NATS Holdings (formerly National Air Traffic Services)
NNAS	National Noise Attitude Survey
NO2	Nitrogen Dioxide
NOEL	No Observed Effect Level

NOx	Nitrogen Oxides
NPPF	National Planning Policy Framework
NPR	Noise Preferential Routes
NPS	National Policy Statement
NPSE	Noise Policy Statement for England
NSIP	Nationally Significant Infrastructure Project
PBN	Performance Based Navigation
PCM	Pollution Climate Mapping
PIM	Pre-Inquiry Meeting
PINs	The Planning Inspectorate
PoE	Proof of Evidence
PPG	Planning Practice Guidance
PRT	Personal Rapid Transport System
R3	The 'third runway'
RANCH	Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health
RAT	Rapid Access Taxiway
RBWM	Royal Borough of Windsor and Maidenhead
RfR	Reason for Refusal
RPoE	Rebuttal Proof of Evidence
RX	Re-examination
SIDS	Standard Instrument Departures
SOAEL	Significant Observed Adverse Effect Level
SOCG	Statement of Common Ground
SoSCLG	Secretary of State for Communities and Local Government
SoST	Secretary of State for Transport
SOUG	Statement of Uncommon Ground (Noise)
SPD	Supplementary Planning Document
SPG	Supplementary Planning Guidance
T5	Terminal 5
TEAM	Tactically Enhanced Arrivals Management
TEDM	Tactically Enhanced Departures Management
The Authorities	London Borough of Hillingdon/London Borough of Hounslow/ Mayor of London
The Council	London Borough of Hillingdon (LPA)
The Secretaries of State	The Secretaries of State for Transport and for Communities and Local Government
TTT	Thames Tideway Tunnel
UAEL	Unacceptable Adverse Effect Level
UDP	The Saved Policies of the Hillingdon Unitary Development Plan (2007) (also adopted in November 2012 to serve for an interim period as the Hillingdon Local Plan: Part 2)
UU	Unilateral Undertaking
VSC	Very Special Circumstances
WHO	World Health Organisation
XX	Cross examination

CONTENTS

File Ref: APP/R5510/A/14/2225774
Northern Runway, Heathrow Airport (Easting: 5053460 Northing: 1763970)

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
- The appeal is made by Heathrow Airport Limited against the decision of the Council of the London Borough of Hillingdon.
- The application Ref 41573/APP/2013/1288, dated 29 November 2013, was refused by notice dated 21 March 2014.
- The development proposed is described as "Enabling works to allow implementation of full runway alternation during easterly operations at Heathrow Airport".

Summary of Recommendation: I recommend that the appeal be allowed and planning permission be granted.

PROCEDURAL MATTERS

1. The appeal was recovered for decision by the Secretary of State for Communities and Local Government and the Secretary of State for Transport and the main parties were notified of that recovery by letter dated 23 October 2014. Consequent on that recovery I was appointed to hold an Inquiry into the appeal and report to the Secretary of State for Transport (SoST) and the Secretary of State for Communities and Local Government (SoSCLG) with recommendations.

2. I held a pre-Inquiry meeting (PIM) on the 1 April 2015 to discuss procedural and administrative matters relating to the Inquiry. I was provided with sample notification letters and a list of addressees used by the local planning authority in notifying third parties of both the appeal and the Inquiry and I am therefore satisfied that the proper notification was given.

3. The Inquiry itself opened on the 2 June 2015 and sat for 12 non-consecutive days until being adjourned on the 19 June 2015. At that stage all the oral evidence had been heard and discussions had taken place on the suggested conditions and submitted obligations; there were nonetheless still a number of matters outstanding. Rather than delaying matters unnecessarily with a lengthy adjournment, agreement was reached to deal with all of the outstanding matters, including closings and the finalisation of the s106 obligations, in writing. In consequence of that agreement an exchange of documents[1] took place following the adjournment in accordance with an agreed timetable and protocol[2]. I thereafter closed the Inquiry in writing on the 4 August 2015.

4. Finalised versions of the Unilateral Undertakings by Heathrow Airport Limited (HAL) to the London Borough of Hillingdon[3] (LBH) and to the London Boroughs of Hounslow and Hillingdon[4] were submitted on the 22 July 2015. I have taken them into account as material considerations in coming to my recommendations.

5. Consequent on discussions between the main parties prior to the opening of the Inquiry, HAL agreed to include in its Unilateral Undertaking to LBH a payment of some £540k to be expended on measures to upgrade the existing bus fleet

[1] INQ/49 – INQ/67
[2] INQ/48
[3] INQ/62A
[4] INQ/62B

operating in Longford such that its emissions would comply with Euro VI standards. The LPA considers this proposal an acceptable means of mitigating the air quality impacts of the development and necessary to make it acceptable in planning terms.

6. Although HAL maintained its position at the Inquiry that there is no need for such mitigation to be provided, HAL nonetheless undertook to draft its Unilateral Undertaking such that payment of those monies was not conditional on that mitigation being found compatible with Regulation 122 of the Community Infrastructure Levy Regulations (CIL Regulations).

7. Subject to that approach being reflected in the drafting of the Unilateral Undertaking the Council accepted that its objections concerning air quality had been overcome and as a result the parties determined not to call their witnesses on air quality. I nonetheless considered it necessary to reach a view on the effects of any air quality impacts resulting from the proposals and whether or not a need had been demonstrated for mitigation. In consequence I determined to deal with the topic of air quality as a 'round table' session with both of the main parties' advocates and air quality witnesses present.

8. Although HAL submitted an Environmental Statement (ES) as part of its Environmental Impact Assessment (EIA), LBH considered the ES deficient in that it "…..fails to comply with relevant Environmental Impact Assessment Regulations 2011……" (RfR3) and "…….fails to provide a cumulative assessment of the proposed development and the associated operational airport changes…."(RfR4). HAL not only disputes this assessment but considers that in any event LBH was not entitled to consider these matters as reasons to refuse the application; instead HAL considers that LBH should, under the Environmental Impact Assessment Regulations 2011, have made a Regulation 22 request for further information. I address this matter in my conclusions as a precursor to the main issues.

9. Insofar as site visits are concerned I was able to observe the site of the proposed runway alterations on an unaccompanied basis from the Terminal 5 building; consequent on those observations I agreed with the main parties that an 'air-side' visit was unnecessary. However, an accompanied site visit to various schools and other locations around the airport took place on the 23 June 2015 after the Inquiry had been adjourned. It followed a pre-agreed itinerary[5].

10. This report begins with a brief outline of Heathrow Airport and its operations, together with the background to the application and the proposed works, before going on to present the cases for the main parties based on their closing submissions. (The unedited closing submissions are available as part of the Inquiry documents.[6]) A summary of third party representations follows before I then set out my conclusions and recommendations. A list of those appearing at the Inquiry is appended at Annex A, the core documents are listed at Annex B, documents submitted during the course of the Inquiry are listed at Annex C and the suggested conditions are given at Annex D.

[5] INQ/34
[6] INQ/63 and INQ/64

THE AIRPORT, ITS OPERATIONS AND THE APPLICATION

11. Heathrow airport operates 24hrs a day, seven days a week albeit that there are limits on the number of Air Transport Movements (ATMs) both generally and during the night. The current overall cap on ATMs, imposed consequent on the Terminal 5 (T5) inquiry is 480,000 movements per annum. A small number of movements including helicopters, aircraft arriving in a declared emergency (and any corresponding departure) and small business aviation aircraft (passenger seating capacity <10) are not classified as ATMs. The actual total number of all capped and uncapped movements in 2014 was 472,411.[7]

12. Heathrow has two parallel runways which lie east/west in their orientation. Although commonly referred to as the 'northern' and 'southern' runways, these runways facilitate aircraft movements from four distinct ends. Identification of a runway in these circumstances depends essentially on its compass heading to the nearest 10° - such that a runway pointing east would be '09' (090° magnetic) whilst one pointing west would be '27' (270° magnetic). A single runway orientated in an east/west direction would therefore be designated runway '09' when in use in an easterly direction and runway '27' when in use in a westerly direction. When, as here, there are multiple parallel runways these have a further designation such as left (L), centre (C) or right (R) viewed from the direction of approach. Heathrow's two runways are therefore known as 27R (northern) and 27L (southern) when being used in a westerly direction and 09L (northern) and 09R (southern) when used in an easterly direction.

13. For operational and safety reasons, aircraft usually take-off and land into the wind. The prevailing westerly wind direction at Heathrow means that take-offs are therefore usually towards the west, in the direction of Windsor, whilst arrivals are from the east over London (known as operating on westerlies). Heathrow also operates a policy of 'westerly preference'; this means that if winds from the east are sufficiently light the airport nonetheless operates on westerlies. In consequence of the prevailing wind direction and the operation of westerly preference, Heathrow operates on westerlies for approximately 70% of the year. When the wind is blowing from an easterly direction and is sufficiently strong for Heathrow's westerly preference to be overcome, aircraft arrive from the west and depart over central London (known as operating on easterlies).

14. Heathrow's runways operate in what is termed segregated mode. This means that, at any one time, aircraft using the airport arrive using one runway and depart using the other. This differs from runways operating in 'mixed mode' whereby arrivals and departures take place using the same runway. Under segregated mode, at any one time local residents at one end of each runway will not be over flown by either arriving or departing aircraft - and will experience what is termed 'respite'.

15. For the majority of the time, a scheme of 'runway alternation' also operates at Heathrow. Under this alternation scheme, the usage of the runways is switched at 15:00 each day. If, for instance, on westerlies the morning sees the southern runway being used for departures and the northern runway being used for arrivals, after 15:00 the northern runway will switch to being used for departures with the

[7] HAL/MB/P/1 Section 2.2

southern then being used for arrivals. Alternation schedules are published in advance and allow communities under the flight paths to benefit from predictable periods of respite.

16. Alternation has nevertheless for some time been subject to an exception. The *Airports Commission: Interim Report* of December 2013 notes that for "…..*historical reasons, when the airport is operating in an easterly direction the northern runway can only be used for arrivals and the southern runway for departures…….to protect the village of Cranford, situated to the east of the northern runway, from departure noise*"[8]. This arrangement, known as the Cranford Agreement, was a Ministerial undertaking given by a senior civil servant in 1952 to the residents of Cranford village.

17. However, on 15 January 2009 the Secretary of State for Transport announced to Parliament a number of policy decisions on the future development of Heathrow airport following the *Adding Capacity at Heathrow Airport*[9] Consultation (ACC) (which closed in February 2008) and the subsequent consultation on *Equalities Impact Assessment* (which closed in November 2008). That announcement included a decision confirming the Government's provisional view in the consultation document that the Cranford agreement should be ended. *Adding Capacity at Heathrow – Decisions Following Consultation (January 2009)*[10](ACD) records:

> *"On the matter of the Cranford agreement, the Secretary of State has considered the responses to the consultation in the light of the analysis in the consultation document. Ending the Cranford agreement would redistribute noise more fairly around the airport and remove around 10,500 people from the 57dBA contour, albeit at the expense of exposing smaller numbers (around 3,300) to higher levels of noise. In light of the Secretary of State's decision not to support the implementation of mixed mode and to retain runway alternation, ending the Cranford agreement would also have the benefit of providing periods of respite during the day for all areas affected on both westerly and easterly operations.*
>
> *The Secretary of State has therefore decided in the interests of equity to confirm the provisional view set out in the consultation document. Therefore the operating practice which implements the Cranford agreement should end as soon as practically possible. He notes that this would also enable runway alternation to be introduced when the airport is operating on easterlies, giving affected communities predictable periods of relief from airport noise."*[11]

18. On the 7 September 2010 the Minister of State, Department for Transport for the subsequent Government (Mrs Theresa Villiers), stated:

> *"The previous Government's decisions in 2009 also included a commitment to end the Cranford agreement. This decision was based on a desire to distribute noise more fairly around the airport and extend the benefits of runway alternation to communities under the flight paths during periods of easterly*

[8] CD/01/26 para5.43
[9] CD/01/24
[10] CD/01/25
[11] CD/01/25 paras.74 and 75

winds. We support this objective and do not intend to re-open the decision. A number of infrastructure and operational changes by BAA and NATS are needed to implement this decision. The airport operator, BAA, is currently developing proposals for ending the Cranford agreement with a view to confirming the necessary works by the end of this year. I will look to BAA to ensure that proper consideration is given to appropriate mitigation and compensation measures for those likely to be affected by the proposals."[12]

19. Currently, Heathrow does on occasion use the northern runway for departures over Cranford. However, HAL considers that it does not at this time possess the necessary infrastructure to permit regular and scheduled easterly departures from the northern runway. HAL therefore submitted an application for "Enabling works to allow implementation of full runway alternation during easterly operations at Heathrow Airport". It is those works that are now the subject of this appeal.

20. The proposed works[13] can broadly be broken down into two components; a number of relatively minor alterations to the pavement areas within the airport and the construction of an acoustic barrier on land to the south of the village of Longford adjacent to the airport.

21. The proposed pavement works would include a new Rapid Access Taxiway (RAT) at the western end of the northern runway (to be known as A13E) as well as a new area of linking pavement (LINK59) intended to facilitate holding, taxiing and turning movements particularly from some of the Terminal 5 stands. In addition, two new runway fillets (A12 and A13) would be constructed to accommodate the movement of larger aircraft such as A380s. The total area of these new pavement areas would be some 12,238m2. In 'compensation' for the new pavement, two areas of existing pavement close to the western end of the southern runway (totalling some 12,564m2) would be broken out.

22. The proposed acoustic barrier to the south of the village of Longford would be some 5m in height and approximately 590m in length. For part of its length it would replace an existing acoustic barrier running alongside Wright Way and for part of its length it would replace a close boarded fence. Just over 200m of the proposed acoustic barrier would be located in the Green Belt.

[12] CD/01/18
[13] See Drg No 10000-XX-GA-100-000193 v1

THE CASE FOR THE AUTHORITIES[14]

23. The Authorities' case is structured around the following issues:

(i) whether that part of the proposed development that lies in the Green Belt represents inappropriate development for the purposes of the National Planning Policy Framework (NPPF) and development plan policy, and the effect of the proposed development on the openness of the Green Belt;

(ii) the effect of the proposed development on the character and appearance of the area;

(iii) Environmental Impact Assessment – (Reasons for Refusal (RfR) 3 and 4);

(iv) the effect of the proposed development on the living conditions of local residents (including users of local institutions such as schools/libraries) having regard to both air and ground noise;

(v) the effect of the proposed development on the living conditions of local residents having regard to air quality; and

(vi) if that part of the proposed development that lies in the Green Belt is inappropriate development, whether the harm by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations, so as to amount to the very special circumstances necessary to justify the development.

24. Green Belt issues are dealt with as a whole, together with the effect of the proposal on the character and appearance of the area. The reasons for refusal which concern environmental impact assessment are next, followed by noise and then air quality. There is then a section on the s.106 planning obligation and conditions. The case begins with an exploration of the context of the planning application in terms of both the Cranford Agreement and the general planning policy approach.

CONTEXT

The revocation of the Cranford agreement

25. The Cranford agreement was an undertaking given by a senior civil servant (with Ministerial approval) in 1952. As the Aviation Policy Framework (APF) notes, it was an informal but long-standing agreement not to use the northern runway for departures when the wind was in from the east (roughly 30% of the time).[15] Its general purpose was to protect the residents of the heavily populated area of Cranford from the high noise levels experienced on the ground from departing aircraft on easterlies.

26. Heathrow is presently able to use the northern runway for departures over Cranford and does so.[16] HAL describes the airport's physical development as a result of the

[14] The Inspector's view based on the closing submissions of the Authorities. The full, unedited, texts of the opening and closing submissions are given at INQ/9 and INQ/63
[15] APF (CD/01/17) p31 paragraph 1.63
[16] Mr Burgess (HAL operations manager) answers to the Inspector's questions

Cranford agreement as "somewhat lopsided"[17], but as Mr Burgess, the Head of Air Traffic Management and Flight Performance for HAL, made clear, the physical works the subject of the appeal application are needed in order to provide the airport with additional options to maintain high levels of departure throughput rather than because without them the northern runway could not be used for easterly departures.[18] The physical works are intended to increase the resilience of the airport (as to which, see further below). It was said that without the additional operational flexibility brought by those works, it would be "challenging" to introduce full alternation on easterlies.[19] The evidence given by Mr Burgess, in particular the further oral evidence that he gave, helped to explain the first sentence of paragraph 1.63 of the APF.[20]

27. The original decision to end the Cranford agreement was taken in 2009. The background to that decision is relevant here.

28. The 2003 White Paper 'The Future of Air Transport'[21] (ATWP) identified a need for two new runways in the South East of England in the period to 2030. A new runway was supported at Heathrow, subject to meeting local environmental conditions. The Project for the Sustainable Development of Heathrow was established the following year. Its remit was to make an assessment of whether those local environmental conditions could be met. The results of the project were published in the 'Adding Capacity at Heathrow' consultation document in 2007 (ACC).[22] That consultation sought responses about not only a third runway at Heathrow, but also a range of operational measures including the ending of the Cranford agreement, the introduction of mixed mode, ending westerly preference and the merits of modifying or retaining existing practices in relation to early morning arrivals.

29. The responses to consultation were therefore related not solely to ending of the Cranford agreement but to operational measures associated with it. For example, the Mayor of London's response to the Adding Capacity consultation noted that, "as well as protecting the residents of Cranford village, the Cranford agreement prevents the use of mixed mode on both existing runways...".[23]

30. The decision to end the Cranford agreement and the decision not to introduce full mixed mode were expressly linked within 'Adding Capacity at Heathrow: Decisions Following Consultation'[24]:

> *"In the light of the Secretary of State's decision not to support the implementation of mixed mode[25] and to retain runway alternation, ending the Cranford agreement would also have the benefit of providing periods of respite*

[17] Mr Burgess PoE p14 para 3.5.3
[18] Mr Burgess answers to the Inspector's questions; cf HAL's Opening Statement at p3 para 8
[19] Mr Burgess answers to the Inspector's questions
[20] CD/01/17
[21] CD/01/27
[22] CD/01/24
[23] Mr Rhodes PoE App 2 p52
[24] CD/01/25
[25] Which it is noted was said could be implemented within 2 to 3 years (CD/01/25 para 69)

during the day for all areas affected on both westerly and easterly operations."[26]

31. The Authorities believe this is a logical and important link to make, given that introducing full mixed mode would frustrate the very purpose of ending the Cranford agreement, ie the benefits of alternation, as Mr Rhodes (HAL's planning witness) had to accept (XX).

32. When the Coalition Government confirmed that it did not intend to re-open the 2009 decision to end the Cranford agreement, it said that it would "not approve the introduction of mixed mode operations at Heathrow".[27] The introduction of mixed mode is thus self evidently a relevant matter to consider in the context of ending the Cranford agreement, especially because the physical works HAL seeks planning permission for in order to introduce full alternation on easterlies (with what it regards as sufficient flexibility and resilience), would also facilitate the introduction of full mixed mode.

33. The Coalition Government described the 2009 decision to end the Cranford agreement as one "based on a desire to distribute noise more fairly[28] around the airport and extend the benefits of runway alternation to communities under the flight paths during periods of easterly winds".[29] It seems to have been anticipated that progress might have been quicker than in fact it was,[30] but neither the 2009 decision nor the 2010 Ministerial Statement indicated that the matter was "urgent".[31] HAL do not appear to have treated it as urgent[32]. The word "urgent" is not used in HAL's planning statement, and its first mention is in Mr Rhodes' proof of evidence.[33] Mr Rhodes, however, had to accept (in XX) that the Government's phrase "as soon as practicably possible" does not mean the same thing.

34. What was emphasised by the Coalition Government was not urgency, but instead the need for "proper consideration [to be] given to appropriate mitigation and compensation measures for those likely to be affected by the proposals".[34] Indeed, it is plain that the decision to end the Cranford agreement was predicated on appropriate mitigation for those likely to be adversely affected, as Mr Rhodes accepted (in XX). Mr Rhodes also accepted in (XX) that the need for appropriate mitigation was not limited to those "significantly affected", but included all those "likely to be affected". Mitigation was plainly regarded as necessary in the context of the introduction of full alternation, which rather serves to undermine HAL's claim that the introduction of alternation is itself a form of mitigation for those newly overflown as a result of the proposal.

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[26] CD/01/25 p26 para 74
[27] CD/01/18 final page 3rd para
[28] Cf HAL's Opening Statement is prone to exaggeration, when it suggests, "that position has been recognised by the Government as being **manifestly inequitable**" (our emphasis).
[29] Ibid last para
[30] Decision 2009, scoping process not begun until 2011, application made in 2013
[31] Cf HAL's Opening Statement p5 para 15, "the implementation of an **urgently needed** noise mitigation measure" (our emphasis).
[32] Mr Thynne's eEiC re the scoping process
[33] Para 3.16
[34] CD/01/18 final page last para

35. As noted in the Authorities' Opening Statement, at the time of the 2009 decision to end the Cranford agreement, it was thought that the overall effect would be to remove about 10,500 people from the 57dBA noise contour, at the expense of exposing about 3,300 people to "higher levels of noise".[35] The submitted Environmental Statement (ES) predicts that the development would result in far more people coming within not only the 63dBA contour, but also within the 60dBA contour.[36] More people will be affected by aircraft noise than had been anticipated. The Authorities do not suggest that is a reason to go behind the decision to end the Cranford agreement, but it underscores the need to ensure that proper consideration is given to whether the mitigation proposed for this scheme is appropriate.

36. In the Authorities' view their position was mischaracterised by HAL as one of opposition to the ending of the Cranford agreement[37] and the Authorities' representations on the Adding Capacity consultation must be read fully and fairly, rather than extracting selected and very short passages out of context.

37. Hillingdon's response to the Adding Capacity consultation expressed strong opposition to the proposal to end the Cranford agreement, but it recognised that ending the agreement would have some benefits including redistributing noise more fairly.[38]

38. Hounslow's response reflected its concern about mitigation, in particular that the proposals would compromise its ability to deliver a proper teaching regime within the Borough's schools without mitigation.[39] The Council objected to the ending of the agreement given that "Adding Capacity at Heathrow does not suggest any further mitigation for those who live, spend their leisure time, work or are educated in the Cranford area beyond the wholly inadequate BAA noise and blight schemes".[40]

39. The Mayor of London's response pointed out that the way in which consultation information had been presented (showing aggregate changes in averaged noise) meant that it was not easy for people to see how they would be affected.[41] It suggested that the 57dBA noise contour cap was "too narrow a test"[42] and that the consultation did not reflect the key findings from the Attitudes to Noise from Aviation Sources in England (ANASE) study.[43] As with the other Authorities' responses, the Mayor of London also objected to the proposed use of mixed mode operations.[44]

[35] CD/01/25 p16 paragraph 36. See also the Adding Capacity Consultation document – CD/01/24 – "higher levels of noise" refers to 63dBA, p95 para 3.137.
[36] CD01/02 Environmental Statement p84 table 6.11 – compared to CD01/24 p95 table 14
[37] See, for example Mr Rhodes RPoE p8 para 2.23
[38] Mr Rhodes Appendix 2 p55
[39] Ibid p79
[40] Ibid p82
[41] Ibid p40
[42] Ibid p43 2nd para
[43] Ibid p43 4th para
[44] Ibid p40

40. Even the consultation response of the Royal Borough of Windsor and Maidenhead is taken out of context.[45] That local planning authority judged that its residents and possibly also those of Slough and South Bucks DC were likely to be the only communities who would, "on balance" benefit from the ending of the Cranford agreement.[46] They added, "there is no doubt that [the] Cranford agreement blocks the introduction of mixed mode and constrains existing runway capacity...". In this context it will be recalled that Councillor Bowden attended the inquiry and spoke on behalf of the Royal Borough. The position of "on balance" support for the appeal proposal was subject to important safeguards, including: "The provision of a more generous noise mitigation package than the one currently before the inquiry".[47]

41. The consultation responses pre the 2009 decision should not be taken to represent the Authorities' position now, although it is apparent that those responses raised issues which remain relevant. The Authorities consider that Mr Rhodes's claim (in XX) that, "each witness in his own way had objected to the merits of the ending of the Cranford agreement" does not stand up to scrutiny. There was no such suggestion in the Authorities' evidence. Each of the Authorities' planning witnesses (Mr Fothergill for the Mayor of London, Mr Chivers for the London Borough of Hounslow and Mr Waite for the London Borough of Hillingdon) made clear that the Authorities have accepted the decision to end the agreement and now seek to ensure that proper mitigation is provided as required by local and national policy.[48]

Policy and approach

42. The decision on the appeal must be in accordance with the development plan, unless material considerations indicate otherwise, per s.38(6) of the Planning and Compulsory Purchase Act 2004.[49] The statutory development plan for the area comprises the Hillingdon Local Plan Part 1,[50] the saved policies of the Hillingdon Unitary Development Plan ("the Hillingdon Local Plan Part 2")[51] and the London Plan.[52]

43. The Authorities make the following broad propositions in relation to the statutory development plan.

    a) First, whilst there are no policies specifically and expressly contemplating the ending of the Cranford agreement, there are up to date policies in the statutory development plan that are directly relevant to Heathrow airport and this proposal.[53&54]

[45] Mr Rhodes PoE para 3.11iv
[46] Ibid p61 1st para
[47] INQ30
[48] INQ/63 paras. 23 - 28 contains the Authorities' detailed criticisms of HAL's approach
[49] See also the NPPF (CD01/16) paras 11 and 196
[50] CD01/20 – Part 1 of the LP was adopted in 2012
[51] CD01/21 – the UDP was adopted in 1998 and its policies were saved in 2007. It was adopted as Part 2 of the Local Plan in 2012.
[52] CD01/19 – the London Plan (consolidated with alterations since 2011) was published in 2015
[53] The relevant policies are listed in the SCG.
[54] Contrary to the argument now deployed by HAL (see paragraph 8.77 of Mr Rhodes' PoE)

b) Secondly, quite apart from the EIA process, the development plan itself requires that full account be taken of the environmental impacts of proposed development.[55]

c) Thirdly, there are policies which are directly relevant to mitigation which insist that the impacts of development must be "adequately" or "sufficiently" mitigated, in perfect parallel with the NPPF.[56]

d) Fourthly, and again consistent with Government policy, the development plan requires that planning permission be granted only in very special circumstances where, as here, inappropriate development is proposed within the designated Green Belt.[57]

44. The Authorities draw attention here to the following development plan policies because they relate to environmental matters and are clearly of primary importance having regard to the statutory approach.[58]

a) Policy T4 of the Hillingdon BC Local Plan: Part 1 Strategic Policies[59] recognises the economic importance of Heathrow and supports the sustainable operations of the airport so long as these are achieved whilst environmental conditions for local communities, including noise and air quality, are improving.

b) Policy EM8 of the Hillingdon BC Local Plan relates to the issues of air quality and noise. In both cases, it provides policy requirements that must be satisfied, including those that relate to the mitigation of air quality and noise impacts.

c) Policy PT2.A2 of the Hillingdon Local Plan: Part 2 Saved Unitary Development Plan 2012 is also directly relevant. It provides that developments within the airport boundary should include sufficient measures to mitigate for or redress the effects of the airport on the environment.

d) Policy 6.6 of the London Plan[60] relates specifically to aviation and provides strategic policy and policy that is relevant directly to planning decisions. Whilst the policy supports improvements of facilities for passengers at Heathrow (in ways other than increasing the number of aircraft movements) it requires that development proposals affecting airport operations or patterns of air traffic should take full account of environmental impacts, particularly noise and air quality.

e) Policies 7.14 and 7.15 of the London Plan are also very important. The first is directed to improving air quality and the second is related to

[55] See eg policy 6.6 of the London Plan.
[56] See eg policy EM8 of the Hillingdon Local Plan Part 1, policy A2 of the UDP, or policies 7.14 and 7.15 of the London Plan.
[57] See eg policy EM2 of the Hillingdon Local Plan Part 1.
[58] See also the policies relating to Hillingdon BC referred to by Mr Waite in his proof of evidence and London Plan policies referred to by Mr Fothergill in his proof of evidence.
[59] CD/01/20
[60] CD/01/19

reducing and managing noise and improving the noise environment. It should be noted here that the latter policy, being adopted very recently, is aligned with recent national guidance (the PPG).

45. In accordance with the statutory approach, these policies in particular must govern consideration of the proposals because they are relevant and up to date.

46. In the Authorities' view HAL does not adopt the statutory approach. For instance Section 4 of Mr Rhodes' proof of evidence starts with consideration of the APF rather than adopted local plan policy, he fails to accord full weight to the relevant policies and he does not in clear terms assess the proposals against the relevant statutory policies.[61] Policy 7.15 of the London Plan is not even mentioned in his proof of evidence.[62] In this way, Mr Rhodes wrongly subjugates the statutory development plan.

47. Mr Rhodes does not argue that the relevant policies are not up to date or relevant, or that they are inconsistent with the NPPF.[63] However, he deploys two arguments to justify his approach.[64]

48. First, he says that the statutory development plan policies "tend to be generalised" and "do not provide specific, detailed guidance".[65] However, whilst the relevant policies do not contain detailed thresholds for air quality or noise impacts, they nonetheless provide sound policy tests that can readily be applied with the benefit of other more specific policy or guidance where appropriate as material considerations. The fact that the relevant policies are in some respects general is no reason to attribute less weight to them. That approach does not relegate the Government's policy in the APF, which is to be taken into account as an important material consideration and given significant weight where it is appropriate to do so. For the same reason, it is not correct to argue, as Mr Rhodes' does, that the APF has "primacy"[66] (if that is intended to mean "pre-eminent"[67]) and is "definitive"[68] (if that is intended to mean "most authoritative"[69]).[70] As is made clear in paragraph 5.6 of the APF, to which Mr Rhodes makes no reference, the APF may be a material consideration in planning decisions depending on the circumstances of a particular application, just as it is in this case.

49. Secondly, he argues that the statutory development plan is "silent" on the principle of the Cranford agreement so that the presumption in favour of sustainable development set out in paragraph 14 of the NPPF applies.[71] However, there can be no reasonable expectation that there are local policies specifically related to the principle of the Cranford agreement. In any event, this appeal does not relate to

[61] Mr Rhodes App 4 contains a number of relevant policies but there is no assessment here
[62] And Mr Rhodes App 4 contains an out of date version of the policy
[63] Section 4 of Mr Rhodes PoE and XX
[64] This is clear from section 4 of his PoE
[65] Para 4.32 of his PoE
[66] Eg para 4.32 of Mr Rhodes PoE
[67] Concise Oxford Dictionary
[68] Eg para 2.21 of Mr Rhodes RPoE
[69] Concise Oxford Dictionary
[70] Contrary to what is said in para 4.31 of Mr Rhodes PoE, whilst the emerging Hounslow Local Plan makes reference to the APF it does not treat the APF as having "primacy".
[71] Para 9.7 of Mr Rhodes PoE

the principle of the Cranford agreement or the principle of its ending, which decision has already been made; the appeal relates to the question of mitigation for environmental impacts of air quality and noise, and there are relevant and up to date policies on that issue.

50. Nor is correct to seek to elevate the APF above the NPPF. The APF is not a National Policy Statement, with statutory status and weight. There is no hierarchy here, nor any deference intended by Government. The NPPF remains the primary source for Government policy and the foundation for the consideration of planning decisions. Indeed, it is clear from the APF itself that its policies are aligned with, and in large part derive from, the NPPF which was published a year earlier.[72] The APF is to be read together with the NPPF, the latter containing the overarching principles relating to noise issues.

51. HAL's approach is also at fault because it fails to take properly into account Hounslow's planning policies. The policies of the London Borough of Hounslow UDP are not referred to at all in Mr Rhodes' proof of evidence[73] and there is only a passing reference to the emerging Hounslow Local Plan[74]. Whilst these policies are not part of the statutory development plan, they are plainly important material considerations bearing in mind that the impacts arising from the proposed development have a significant effect on people living in Hounslow.

GREEN BELT AND VISUAL AMENITY (RfR 5 and issues (i), (ii) and (vi))

Introduction

52. The Authorities' submissions are set out under the following headings:

a. Relevant local plan policy

b. The NPPF

c. Inappropriate development

d. The effect of the proposal on the openness of the Green Belt and visual amenity

e. Very special circumstances (NB in this context "any other harm" means both Green Belt and non-Green Belt harm.[75])

Relevant local plan policy

53. The relevant statutory development plan policies, as referred to in the Council's 5th RfR, are set out in Mr Waite's proof of evidence.[76] Particular attention is drawn to policies OL1 and OL4 of the Hillingdon Local Plan: Part 2 – Saved Unitary Development Plan 2012 and policy 7.16 of the London Plan 2015 which provides that "inappropriate development should be refused, except in very special circumstances".

[72] See for example para 3.20 of the APF which expressly refers to paragraph 123 of the NPPF.
[73] There is no reference to Hounslow BC's policies in Mr Rhodes App 4
[74] Para 4.31
[75] See SofS v Redhill Aerodrome Ltd [2014] EWCA Civ 1386 at [31-33]
[76] Paragraphs 4.5(5), section 5 and section 8 of Mr Waite's PoE

54. Policy OL1 of the Saved UDP states that the Council will not grant planning permission for new buildings or for changes of use of existing land and buildings other than for purposes essential for and associated with agriculture, horticulture, forestry and nature conservation or open air recreational facilities or cemeteries. Policy OL4 states that the Council:

> *" will only permit the replacement or extension of buildings within the Green Belt if: (i) the development would not result in any disproportionate change in the bulk and character of the original building; (ii) the development would not significantly increase the built up appearance of the site; (iii) having regard to the character of the surrounding area the development would not injure the visual amenities of the Green Belt by reason of siting, materials, design, traffic or activities generated".*

55. These policies are relevant and up to date.

The NPPF

56. Section 8 of the NPPF is relevant generally. Paragraph 79 emphasises the fundamental aim of Green Belt policy being to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts being their "openness and permanence". Paragraph 80 sets out the well established five purposes of the Green Belt. Paragraph 81 makes clear that the enhancement of visual amenity in the Green Belt may be a relevant consideration (even though it does not relate to the purposes of the Green Belt). Paragraph 83 says that Green Belt boundaries should only be altered "in exceptional circumstances, through the preparation or review of the Local Plan".

57. Paragraph 87 repeats the well established Green Belt policy: "inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances". Paragraph 88 supplements this paragraph with: "local planning authorities should ensure that substantial weight is given to any harm to the Green Belt". "Very special circumstances" will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations".

58. Those paragraphs are not controversial but they are important.

59. Paragraphs 89 to 90 are also important, since they define what is not to be regarded as "not inappropriate" development, but they are controversial in this case. We do not set them out, but the relevant parts are referred to below in the consideration of HAL's contention that the proposed acoustic wall is not inappropriate development.

Inappropriate development

60. In its statement of case, HAL did not seek to argue that the acoustic wall (or that part of it falling within the Green Belt) was not inappropriate. It was accepted that the barrier was inappropriate development in the Green Belt and that the "very special circumstances" test must be applied. Mr Rhodes conceded (in XX) that since then, there had been no material change in policy and no change in circumstances. Notwithstanding that position, Mr Rhodes advanced two arguments intended to persuade the Inspector and Secretaries of State that the barrier is not inappropriate development.

61. Firstly it was argued, by reference to paragraph 89 of the NPPF, that the acoustic wall is an exception to the rule stated in that paragraph that "the construction of new buildings" is inappropriate insofar as it would be "an extension or alteration of a building" which does not result in a "disproportionate addition over and above the size" of the existing wall[77] and/or that it is a "replacement of a building...in the same use and not materially larger than the one it replaces"[78].

62. The Authorities say that those arguments wrongly interpret the NPPF and should be rejected for the following reasons:

    a) First, it is clear from Mr Rhodes argument itself that it is common ground[79] that the proposed wall or that part of it within the Green Belt is a "building" to which the first sentence of paragraph 89 applies. Moreover, whilst Mr Rhodes relies on the third bullet of paragraph 89, he does not support that argument by reference to the acoustic wall being an "extension or alteration" of a building. Indeed, his reasons expressly concede that the new barrier is a "replacement" building.[80]

    b) Secondly, the word "disproportionate" in the third bullet of paragraph 89 obviously invites a comparison between the existing and proposed structure in terms of heights, lengths and depths etc (ie its proportions). A circa 207 metres length of the 5 metres high acoustic barrier would be located within the Green Belt.[81] That section of the proposed barrier would be 2 metres higher than the existing screen of 3 metres[82] meaning that the replacement barrier would be 66.7% larger over a significant length. The new structure would clearly be disproportionately larger.

    c) Thirdly, the third bullet relates purely to "disproportionate additions over and above the size of the original building". Contrary to Mr Rhodes' suggestion it has nothing to do with "purpose" or "function".

    d) Fourthly, the fourth bullet of paragraph 89 requires that the new building be "in the same use" as the building it replaces. Whilst Mr Rhodes contended that the replacement barrier would be for the same use as the current structure, this is not factually accurate. As Mr Rhodes proof of evidence[83] points out, and as noted by Mr Waite (in XX), the existing structure was erected principally to mitigate the effects of traffic noise as a result of the 2002 river works and moving of the airport perimeter road, not to mitigate air noise effects.

    e) Fifthly, and for the same reasons as above, it is very clearly the case that the proposed replacement building is "materially larger". Moreover,

[77] See the third bullet point in para 89.
[78] See the fourth bullet point in para 89.
[79] Para 8.57 of Mr Rhodes' PoE. The barrier is to be rebuilt (see the description of development in the planning application and paras 2.13 ("construction") and 8.1 (" erection") of Mr Rhodes' PoE)
[80] Para 8.60 of Mr Rhodes' PoE
[81] Paras 8.13-8.15 of Mr Waite's PoE. See also INQ/31A and INQ/31B
[82] Para 8.17 of Mr Waite's PoE
[83] Para 8.10i of Mr Rhodes' PoE

not only are its dimensions much greater but their effects will be very noticeable and significant in terms of openness and visual amenity, a matter addressed below.

63. Secondly Mr Rhodes argues that the acoustic wall is not inappropriate because, it is "local transport infrastructure which can demonstrate a requirement for a Green Belt location" in accordance with the third bullet point in paragraph 90 of the NPPF. The Authorities say this argument is equally strained and, for the following reasons should also be rejected:

    a) First, paragraph 90 refers to "other forms of development". In so far as the acoustic wall is a "building" within the first sentence of paragraph 89, it cannot also be an "other" form of development in paragraph 90.

    b) Secondly, despite Mr Rhodes' arguments the noise barrier is not a piece of transport infrastructure, nor can Heathrow airport reasonably be described as local transport infrastructure to which the noise barrier is "ancillary".

64. It follows that the proposed acoustic barrier should not be regarded as appropriate development in the Green Belt and that in accordance with the NPPF planning permission must not be granted except by demonstration of very special circumstances.

The effect of the proposal on the openness of the Green Belt

65. It is of course a question of judgment as to what effect the proposed barrier would have on the openness of the Green Belt but Mr Rhodes himself notes that even the existing fence impacts on openness. He also accepts that the proposals would add to the sense of enclosure, although in his judgment not "not materially so".[84] Bearing in mind the substantial increase in size and length proposed for the new structure, Mr Rhodes' judgment must be rejected.

66. Mr Waite's judgment is more reasonable. As he explained further in his oral evidence, he considers that the acoustic screen by virtue of the substantial additional height and size would have a significantly greater impact on the openness of the Green Belt than the existing fence.[85]

67. The photograph montages in the Environmental Statement[86] give a good impression of the adverse effect on openness that the proposed barrier would have. From these it can be seen that: at distance even the proposed upper Perspex upper part will be clearly visible (and an alternative non-transparent material would have an even worse effect) (V1); the uprights make the increased height of the structure particularly obvious even at distance (V1); the existing fence is not very noticeable from a number of viewpoints, but the proposed barrier would be far more evident (V2, 3 and 4); even with the (limited) benefit of the Perspex upper part, the proposed barrier would significantly increase the enclosure, in particular from Longford Pocket Park (and, contrary to Mr Rhodes' view, the Terminal 5 building is some way beyond the barrier with no contextual mitigating effect) (V2, 3 and 4);

[84] Para 8.62 of Mr Rhodes' PoE
[85] Paras 8.18-8.24 of Mr Waite's PoE
[86] Appendix 5

and the new barrier would appear far more solid in appearance, adding to the enclosing effect of the new wall, in particular from Kings Bridge (V6).

68. It follows from this that the proposed development is in conflict with policies OL1 and OL4 of the Hillingdon Saved UDP. For the same reasons, the proposed new barrier would have a detrimental effect on the character and appearance of the area, in particular from publicly accessible viewpoints, contrary to policies BE13 and BE19 of the Hillingdon Saved UDP.

69. Paragraph 88 of the NPPF requires that substantial weight should be given to any harm to the Green Belt. Having regard to the submissions, it is clear not only that the proposed acoustic wall would cause significant harm to the openness of the Green Belt at this location but also harm to the visual amenity of the Green Belt and the character and appearance of the local area (in conflict with the statutory development plan).

Very special circumstances

70. HAL asserts that the proposed acoustic structure replaces an existing structure "which has a comparable impact on the Green Belt".[87] In so far as this appears to be a reflection of Mr Rhodes' judgment about the impact of the proposed new and much larger barrier the point should be dismissed. Indeed, as explained above, the proposal would cause harm to the Green Belt and is not a positive element in the balance of considerations.

71. Mr Rhodes says that the Green Belt boundary is "outdated and illogical... - it should be amended to follow the line of re-aligned river".[88] Mr Rhodes refers to the history of the Green Belt in this location, but the considerations that pertained at those points in time are not those that pertain at this appeal (as Mr Waite made clear in his oral evidence[89]). Whilst it is accepted that in the past the Council has considered the potential for re-drawing the Green Belt boundary, this appeal is not the place to debate that matter. Paragraph 83 of the NPPF makes clear that Green Belt boundaries should only be altered in exceptional circumstances, through the preparation or review of the Local Plan[90], as Mr Rhodes appears to accept[91]. The rationale for this is obvious. The local plan process provides a proper opportunity for a full review to be taken with the benefit of detailed assessment of the existing and alternative boundaries and in the light of wide public consultation – that is not the case here. In view of this, Mr Rhodes' point should have no bearing on the question of very special circumstances. Indeed, to accept the point would in effect be to accept that there should be no Green Belt designation here, that the land on which the proposed barrier would be erected should not be treated as Green Belt land or that the Green Belt status of the land should be in some way reduced – either course would be impermissible.

72. Mr Rhodes says the noise barrier is a necessary consequence of the implementation of Government policy and that it is necessary to mitigate ground noise effects.[92]

[87] Para 8.77(a) of Mr Rhodes' PoE
[88] Para 8.77(b) of Mr Rhodes' PoE
[89] And as is clear from the documents in App 6 of Mr Rhodes' PoE
[90] See para 8.42 and policy EM2 of the Hillingdon Saved UDP.
[91] Para 8.23 of Mr Rhodes' PoE
[92] Para 8.77(c) and (d)

The Authorities accept that a noise barrier is necessary to mitigate ground noise effects, although as Mr Fiumicelli observes it is far from a complete mitigation measure.[93]

73. Mr Waite nonetheless made clear in his evidence that the significance of the Green Belt issue very much depends on the other issues that lie between HAL and the Authorities. The Council accepts that if the Inspector and Secretaries of State were to conclude that the issues raised in the other reasons for refusal had been satisfactorily addressed, very special circumstances would then have been demonstrated so that planning permission could be granted subject to suitable controls for mitigation. If however, the Inspector and Secretaries of State were to conclude that the Council's other reasons for refusal had not been satisfactorily addressed, for example because of inadequate noise mitigation measures, the Council would then invite the conclusion that very special circumstances had not been demonstrated, and that planning permission could not be granted. The Authorities believe that the proper course in that circumstance would be for the Inspector and the Secretaries of State to make clear their views as to those other issues so that HAL can re-consider and amend its proposals as necessary so that planning permission could then be granted subject to appropriate controls.

ENVIRONMENTAL IMPACT ASSESSMENT

Reason for refusal 3

74. Two of Hillingdon's reasons for refusal (3 and 4) relate to deficiencies in the ES. The third reason for refusal reads as follows:

> *"The Environmental Statement fails to comply with relevant Environmental Impact Assessment Regulations 2011 (including the requirements of Schedule 4 Part 1 'Information for inclusion in Environmental Statements') in that it does not adequately a) Describe the likely significant effects from noise impacts or b) Set out the measures to prevent, reduce and where possible offset any significant adverse effects on the environment."*

Description of the likely effects arising from noise impacts

75. The Authorities object to reliance on the 16 hour LAeq metric as the sole basis for assessment and as the sole basis upon which mitigation is offered. The Authorities' view of the need for different noise metrics to address both the impacts of the scheme and in developing targeted mitigation measures to address those impacts is explained in the section dealing with Noise and whilst the ES has provided[94] additional information in Appendix G, this has not formed the basis of assessment and seems to have played no part in the development of the proposed mitigation measures.

76. The ES looks narrowly at the likely effects on the community around Heathrow arising from the scheme's noise impacts. As Mr Thynne pointed out in his written evidence, the ES simply refers to "annoyance" and does not expand on what this

[93] See section 7.2 of Mr Fiumicelli's PoE and oral evidence
[94] We note later on Mr Thornely-Taylor's explanation of the information in Appendix G in his oral evidence, "it hasn't been used. It has been provided".

means.[95] This is unhelpful for the reader, because noise causes both direct and indirect effects on people who experience it, which are not articulated adequately if only "annoyance" is referred to. The "health-annoyance-disease" chain explained in the WHO Noise effects and morbidity report 2004 relied upon by Mr Thynne[96] shows that it is accepted that noise can indirectly, as a result of annoyance, lead to health effects; an example of what must be taken to be a direct effect on children is eg the evidence that their respiratory systems can be affected by noise.[97]

77. HAL's suggestion is that because the benchmark for significance in the ES at 57dB LAeq, 16h (as the approximate onset for significant community annoyance) comes from the APF, if one wants to understand why it is that 57dB is selected (or, "the significance of different levels" – XX), that can be understood by reference to the APF. In the context of the legal requirement to describe the likely significant effects arising from development, that is a woefully poor answer to the point. If a member of the public wants to understand what might be the effect on them of being exposed long term to 57dB, or 60, or 63 (where, without a 3dB change that impact would go unmitigated by HAL's mitigation scheme, see below), it is simply not good enough to say: you may suffer from annoyance; and if you want to understand what that might mean, see the research underpinning the APF. The ES itself should describe likely significant effects on people.

Health and Equality Impact Assessment

78. The Health and Equality Impact Assessment (HEIA) is not contained within the ES and the guidance it relies on (the EU Position Paper on Annoyance[98]) is not contained within it but the reader is instead referred to a web-link. Mr Thynne relied upon the PPG to conclude that the ES is not in this regard a single and accessible compilation of the relevant environmental information.[99]

79. HAL sought to explain this approach by pointing to a recent amendment to EIA Directive 2014/52/EU to include human health to the list of factors that need to be considered as part of environmental impact assessment. Mr Gibbs, in his written material, said that until that amendment is introduced into domestic legislation, "any decision to address health effects within an ES is at the discretion of the applicant".[100] In cross examination of Mr Thynne, he was asked whether there is a requirement as part of Hillingdon's validation checklist for a health and equality impact assessment. He confirmed that there was not.

80. These points do not get to the heart of the matter. HAL rightly thought it was necessary and important to explain the health effects caused by the increased aircraft noise resulting from the scheme, hence producing and submitting the HEIA. Excluding that work from the ES requires readers to look outside the ES in order to understand important scheme effects.

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[95] Mr Thynne's PoE p12 para 3.2.2 and see p19 para 3.5.11
[96] Mr Thynne PoE p12 para 3.2.4
[97] Ibid para 3.2.5
[98] European Commission 2002 Position paper on dose response relationships between transportation noise and annoyance
[99] Mr Thynne PoE p11 para 3.1.7 – and of course the guidance in turn relies upon Berkeley v SofS (No.1)[2001] 2 A.C. 603
[100] Mr Rhodes' Rebuttal Appendix 2 Mr Gibbs' second report p5 para 2.2.8-2.2.9

81. As indicated earlier the Authorities consider that sole reliance on the LAeq, 16 hour metric is not adequate to provide a sufficient description of the effects of the proposed development. In the case of the HEIA, it appears that insistence on working only on the basis of the LAeq, 16 hour metric and, in particular, the 57dB benchmark, has rendered the HEIA completely unreliable.

82. The HEIA is unreliable because although it accepted at the outset that it would be appropriate to assess health effects on the basis of 55 Lden (page 24 of the HEIA and Mr Thornely-Taylor's answers in XX), it then seems to have failed to make an assessment on that basis. It wrongly transposed Lden to LAeq, 16 hour by adding rather than subtracting 2dB (paragraph 5.5.14) and then appears to have assessed health and equality impacts on the wrong basis, ie using 57dB LAeq, 16 hour rather than 55 Lden or its equivalent 53dB LAeq,16 hour.

83. It also wrongly uses 57dB LAeq, 16 hour as the basis for assessment of those "highly annoyed", relying on the ES's figure of -50,[101] rather than using the large population increase within the 55Lden contour (+2,400)[102] as the basis of the calculation (NB Appendix G did not produce the equivalent calculation of the numbers of people highly annoyed on the basis of the +2,400 people coming within the contour as a result of the scheme).

84. This error feeds through into the conclusions section of the report, where the conclusion that there has been a "decrease" in the number of people highly annoyed is repeated.[103]

85. The health effects from noise should be taken seriously. It is more than troubling that the HEIA fails to deal with the consequences of large numbers of people becoming highly annoyed, which is what it would have found had it followed the methodology it set itself. This is in a context in which it acknowledges that there is a higher proportion of children in this area than average. Children as a group are particularly at risk, says the report, not least because they suffer cumulative impacts: noise at night, noise at school and noise at home.[104]

86. As we have noted, the health effects caused by the development are among the most important issues for the community around Heathrow. HAL acknowledged that in its production of the HEIA. The ES explained that it relied on the HEIA to deal with the health effects of the development.[105] If the HEIA had assessed health impacts on the basis that it originally set itself (ie 55Lden) and found significant effects, that conclusion would have required a review of the use of the 57dB LAeq, 16 hour level as the threshold for significance. The final report is so muddled that it is not useful, for that, or any other purpose.

87. If there is any sensible explanation for the deficiencies in the HEIA, or suggestion as to what the Inspector/Secretaries of State are expected to make of it, that has

[101] CD01/02 ES p91 table 6.16
[102] ES Appendix G pG23 table G6
[103] HEIA p51
[104] HEIA p46 para 7.3.32
[105] See eg the ES at p6 para 1.3.4 and p54 para 6.2.2. cf Mr Gibbs' rather odd claim in his second report that the ES "is not reliant on the HEIA itself or the EC Position Paper to assess the significant noise effects of the Project" (Rhodes Rebuttal App 2 p6 para 2.2.16). The paragraphs referred to within the ES clearly indicate that ES did rely on the HEIA.

not so far come in any of HAL's evidence or in its cross examination of Mr Thynne. The position is that there is not a reliable piece of work which explains properly what the health effects of the development will be.

88. While acknowledging that (per R (Blewett) v Derbyshire CC [2003] EWHC 2775) "in an imperfect world it is an unrealistic counsel of perfection to expect that an applicant's environmental statement will always contain the 'full information' about the environmental impact of a project",[106] it is realistic to expect that where, as here, an applicant provides information about health effects because they are judged significant and important, that the information should be within the ES itself, consistent and not so unreliable that it is meaningless.

Measures to prevent, reduce and where possible offset any significant adverse effects on the environment

89. Air quality is dealt with below but in our submission, HAL's position has changed and should be interpreted as tacitly accepting the need for mitigation.

90. As far as noise is concerned, as Mr Thynne complained in his written evidence, there is no correlation in the ES between significant adverse effects and mitigation.[107] Significant noise effects are identified at 57dB LAeq, 16hrs with a +3dB change. In our submission, there is no mitigation for residential properties up to 63 dB LAeq, 16hrs with a +3dB change (see the Noise section below). For schools, again, significant adverse effects on them are left unmitigated, with no explanation as to why that should be so.

91. As we explain later, the development would leave significant residual effects unmitigated, but the ES does not explain why the mitigation package proposed is so limited.

Reason for refusal 4

92. The fourth reason for refusal reads as follows:

> *"4. The Environmental Statement fails to provide a cumulative assessment of the proposed development and the associated operational airport changes with the recommendations of the Airports Commission and the ability to operate 'mixed mode' within the existing air transport movement limits. The Environmental Statement therefore fails to comply with Schedule 4 Part 1(b) of the 2011 EIA Regulations."*

93. It is the Authorities' case that there are numerous "reasonably foreseeable"[108] changes to operations at Heathrow which ought to have been included within the cumulative assessment within the ES. Judging what ought to be included in a

[106] Paragraph 41 of the judgment of Sullivan J (as he then was), in Blewett (decision upheld in the Court of Appeal).
[107] Mr Thynne PoE p23 para 4.4.1
[108] See the European Commission's Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (1999) ("EU Commission Guidelines") at pii. NB the guidelines are now archived but have been referred to in decided cases and offer helpful guidance as to approach (as has been explained in the legal note submitted by HAL, see Mr Rhodes' Appendix 5(A); and see also Commercial Estates Group Ltd v SofS [2014] EWHC 3089 at [16].

cumulative assessment is a question of fact in each case, per Sullivan LJ in his judgment in the case of R (Brown) v Carlisle City Council [2010] EWCA Civ 523: "the answer to the question – what are the cumulative effects of a particular development – will be a question of fact in each case. There may be a cumulative effect notwithstanding the absence of a functional link."

94. Without a proper cumulative assessment, the ES is materially defective and, in consequence of the clear breach of the regulations, any decision to grant planning permission relying on it would be unlawful (as contrary to regulation 3). Where as here the need for a proper cumulative assessment is so pressing, it would make a mockery of the EIA process not to require it; and would be plainly unreasonable in all the circumstances.

95. It is logical to consider the changes in question in the following categories, which we subdivide into specific operational practices as necessary later on.[109]

96. First, the measures recommended by the Airports Commission to be implemented in the short term:

    a. Full alternation on easterlies

    b. Operational Freedoms measures

    c. Optimisation Strategy recommendations

    d. More night flights (early morning schedule smoothing)

    e. Ending westerly preference

97. Then it is appropriate to turn to the Airport's Commission medium term recommendations, specifically to the prospect of the introduction of full mixed mode.

98. Before doing so, it is necessary to address three important preliminary points, regarding requests for environmental information/further environmental information; the purpose of cumulative assessment within an ES and challenges within the process; and how to go about judging the need for other proposals to be included within a cumulative assessment if they are subject to a separate regulatory process.

Requests for environmental information/further environmental information

99. In Hillingdon's Scoping Opinion (August 2011)[110] the Council said "It is not clear from the Report what impacts ending the Cranford Agreement and the enabling works will have on the airport operations... the baseline needs to consider longer term changes to operations...".[111] In section 5, dealing with the Baseline, it asks for further discussion about how TEDM and TEAM should be incorporated into the assessment methodology and the baseline of the ES. In section 14, it notes the publication of the report of the South East Airports Taskforce and to a proposed trial of operational freedoms. The Council asked for the assessment to take a worst case

[109] The Inspector will recall that this was the approach taken in XX of Mr Burgess.
[110] Mr Thornely-Taylor's Appendix 2 p5 and on.
[111] Ibid p8

approach and include those measures.[112] Later the Scoping Opinion says "as stated previously, the ES needs to fully consider the changes to the airport... as well as the impacts of the enabling works and the ending of the Cranford Agreement."[113] That was the context in which later correspondence was conducted.

100. HAL wrote back on 4 December 2012.[114] In short, HAL did not accept the need to consider any of the possible cumulative effects the Council was concerned about.

101. The Council's reply of 6 February 2013 provided a detailed response, explaining why it thought that a cumulative assessment including Operational Freedoms measures was necessary.[115]

102. After receipt of the ES, the Council wrote again to HAL, by letter of 16 August 2013, which HAL took to be a request for further environmental information under regulation 22 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 ("the EIA regulations").[116] In that letter, under the heading "cumulative impacts" the Council said that, "alongside the planning application for the enabling works, Heathrow Airport Limited has submitted a range of other proposals to the Davies [Airports] Commission...". It said that "the Council believes that the other proposed operational changes are captured by the IPC's definition of 'submitted but not yet approved' and should be fully considered within the cumulative impact assessment of the current EIA." It also said: "1A Please clarify how you see these proposed operational changes being progressed and how they will be properly assessed before implementation." HAL refused to include the operational changes proposed to the Davies Commission within the cumulative assessment.[117]

103. HAL now seeks to argue that this was not a regulation 22 request (Mr Thynne XX). Mr Rhodes' explanation of the argument is that "only the italicised text [within the Council's letter] relates to the request" (XX). He had to accept though (XX), that there is no prescribed form for such requests and also that HAL knew that the Council's consistent position was that those operational changes should be included within the cumulative assessment in the ES.

104. It was suggested (XX Mr Thynne) that the Council was somehow in breach of its obligations under the EIA regulations because it should have made further requests for the information sought rather than decide to refuse planning permission. That suggestion has no merit. It is absolutely plain that there was no point in making further requests because it was clear that HAL's position was not going to change. Even after the refusal of planning permission, HAL has doggedly resisted carrying out the work the Authorities consider is necessary. HAL could have carried out the work post refusal of planning permission, but to date have not yet done it. The Council took the only sensible course open to it.

[112] Mr Thornely-Taylor's Appendix 2 p18 section 12.51
[113] Mr Thornely-Taylor's Appendix 2 p 25 section 17.1
[114] Mr Thorney-Taylor's Appendix 2 p34 & on
[115] Mr Thornley-Taylor's Appendix 2 letter at p42 conclusion re Operational Freedoms at p46
[116] HAL's Statement of Case para 4.29
[117] HAL's reply of 18 September 2013

The purpose of cumulative assessment within an ES & challenges within the process

105. The PINS Advice Note 9: Rochdale Envelope offers advice[118] about cumulative assessment, emphasising that, "the potential cumulative impacts with other major developments will also need to be carefully identified..."[119] It includes examples of "other major development" to be taken into account, among them "submitted application(s) not yet determined". Mr Rhodes was incorrect to assert that only where there is an "application" is there a need for cumulative assessment (in XX). That is too literal an interpretation of the PINS guidance and ignores the central purpose of EIA, to ensure that all likely significant environmental effects are taken into account[120] at the earliest opportunity.[121] Nevertheless, PINS guidance example is a relevant one because it shows that proposals which may or may not come forward will need to be considered in a cumulative assessment.

106. The EU Commission Guidelines relied on in the HAL legal note[122] offer assistance in understanding the purpose of cumulative assessment and the challenges to be expected when cumulative assessment is carried out.

107. Paragraphs 2.2.2 and 2.2.3 of those Guidelines are particularly relevant and should be considered in full. In briefest outline: a cumulative assessment should be carried out in order to assess significant environmental effects at the earliest opportunity, in as comprehensive a manner as possible. It is likely that the assessment of cumulative impacts and interactions will be met with uncertainties and may be based on assumptions. Where such assumptions are necessary, they should be made clear.

The relevance of a separate regulatory process

108. The existence of a separate regulatory process does not obviate the need for a cumulative assessment to be carried out. HAL's submitted legal note does not go so far as to suggest that it might.[123] Even where a separate subsequent planning application and a further EIA process is likely (which is not the case here), that does not reduce the importance of carrying out a proper cumulative assessment at the first opportunity, as per the judgment of Sullivan LJ in the case of Bowen-West v SofS [2012] EWCA Civ 321 at [40]:

> *"Since the object of both the Directive and the Regulations is to ensure that any cumulative environmental effects are considered before any decision is taken as to whether permission should be granted, an assurance that they will be assessed at a later stage when a decision is taken as to whether further development should be permitted will not, save perhaps in very exceptional*

[118] See Mr Thynne's appendix 5. The document makes clear on p2 that the "content of this document is advice only with no statutory status".
[119] Ibid p8. NB rightly, HAL has not sought to suggest that only "development" within the meaning of s.55 of the Town and Country Planning Act 1990 would need to be the subject of cumulative assessment.
[120] Mr Thynne PoE p8 para 2.2.1
[121] Mr Thynne PoE p27 para 5.1.2
[122] Mr Rhodes appendix 5(A) para 15
[123] See Mr Rhodes' Appendix 5(A) at p8 para 35

circumstances, be a sufficient justification for declining to quash a permission granted in breach of regulation 3(2) and/or the Directive."

The Airports Commission work

109. The Airports Commission's remit included producing an Interim Report by the end of 2013. Its terms of reference included providing "its recommendation(s) for immediate actions to improve the use of existing capacity in the next five years – consistent with credible long-term options.[124] When it published the Interim Report, the Commission said that it "makes recommendations for immediate actions to improve the use of existing runway capacity for the next five years; identifies additional measures for making the best use of existing capacity that might be further developed before the Commission's final report".[125]

110. As part of its work towards the Interim Report, the Airports Commission issued a call for proposals and evidence. HAL's response (May 2013),[126] in accordance with the call, was directed to identifying short term deliverable measures for increasing capacity – (ie capable of implementation within five years of the interim report publication) and medium term options (those which did not require the provision of additional runways or terminals, but which might need more than 5 years to deliver).

111. It is important to consider the detail of what HAL said in its proposals to the Airports Commission because it is relevant to the likelihood of the delivery of the operational changes which we will come on to consider. In short, given that Heathrow is operating at near capacity, HAL will do everything in its power to introduce measures which increase resilience and flexibility and thus better allow the airport to compete.

112. The Overview section of HAL's response (page 1) asserts that "Heathrow is already the world's most efficient and productive two-runway airport". It refers to the planning condition ATM cap of 480,000 p.a. and indicates that due to the Local Planning Authority policy position on Heathrow expansion, the likely timescale, cost and effort required to lift that cap would be likely to take several years. It emphasises "predictable and reliable operations" and noted that, "Heathrow's ability to offer such a service is challenged, because it operates at near maximum runway capacity. This means that adverse weather typically causes more disruption here than it does at other airports." Mr Burgess accepted (in XX) that predictable and reliable operations are important to the airport's ability to compete for business in that it improves its resilience and therefore attractiveness to airlines.

113. The document then makes clear that it is HAL's position that any further marginal short-term improvements… should be used "primarily to make the airport more resilient… In the short term, this is more important for maintaining the UK's global hub status."[127] Mr Burgess agreed (XX) that this helps to appreciate the importance placed on measures which serve to improve the airport's resilience.

[124] CD01/26 Interim Report p18 para 1.2 2nd bp
[125] CD01/26 Interim Report pp18-19 para 1.4 2nd and 3rd bps
[126] Mr Burgess Appendix 15
[127] Mr Burgess Appendix 15 p1 paragraph under numbered paragraphs.

114. It goes on to say, "Heathrow is working hard… to improve operational performance and efficiency…".[128] Mr Burgess agreed (XX) that given all that was said in the overview, it was appropriate to assume that the airport will do everything in its power to secure improvements directed to increasing efficiency and resilience.

115. The Overview section then considers current investment plans.[129] Mr Burgess confirmed (XX) that those plans are identified now in HAL's Q6 business planning. That investment includes rapid exit or wider taxiways suitable for A380s (double decker wide bodied – long haul – aircraft). The investment mentioned within the Overview included the delivery of Airport Collaborative Decision Making – which has now been delivered at Heathrow. Other improvements planned, such as those relating to the Future Airspace Strategy and the Single European Sky Air Traffic Management Research Programme also have provision within the airport's investment planning.

116. On page 3 (paragraph 1.2) it says that over the last decade there have been numerous actions to extract as much connectivity and capacity from Heathrow as possible. Mr Burgess acknowledged (XX) that there is no indication that that approach would cease now, quite the contrary. It notes (3rd bullet point) the growth in average aircraft size, which Mr Burgess confirmed (XX) HAL had sought to make provision for.

117. On page 4 (paragraph 1.3) there is a comment about the scope for growth. Heathrow anticipates being able to make better use of its marginal capacity and deliver some moderate passenger growth – over the next 10 years. Mr Burgess confirmed (XX) that includes an increase in average aircraft size.

118. The next section is concerned with Heathrow's focus on resilience because of its importance to the airport's competitiveness.[130] Planned investment is considered at paragraph 2.2 including 2nd bp "investment in new stands and airfield upgrades – enabling Heathrow to handle more new generation long haul aircraft eg A380s". At paragraph 2.7 it notes that, "a relatively small decrease in system utilisation and/or small improvements in system efficiency can produce significant performance improvements".

119. The document then turns to HAL's aim of 90% of flights arriving or departing within 15 minutes of their scheduled time (by the end of Q6, 2019). It goes on to explain the measures which it intends to implement: in the short term, delivery of measures suggested in the Future Airspace Strategy and delivery of operational freedoms recently trialled. In the longer term, delivery of Single European Sky Air Traffic Management Programme.[131]

120. Mr Burgess agreed (XX) that the delivery of those measures would bring significant benefits (and see page 6 paragraph 2.11), in that they would make Heathrow more resilient and therefore better able to compete. It will be noted that this is what business planning at Heathrow is directed to achieving, as is made clear by the reference to the Q6 business plan (on page 7). Mr Burgess confirmed (XX) that the

[128] Mr Burgess Appendix 15 p1 4th para
[129] 4th paragraph within the Overview section of HAL's proposals to the Airports Commission
[130] See the italics at the bottom of p4
[131] Bottom of p5, top of p6.

business plan is directed to the delivery of the measures identified for investment in the proposals document.

Measures recommended by the Airports Commission: full alternation on easterlies[132]

121. The planning application the subject of the appeal was made expressly in order to obtain planning permission for the physical works required in order to introduce full alternation on easterlies. It was made more than four years after a decision was taken in 2009 to end the Cranford Agreement.[133] An Environmental Impact Assessment scoping process had been initiated by HAL on 21 June 2011.[134] HAL then delayed progressing the application between November 2011 and October 2012 during the course of Operational Freedoms trials,[135] making the planning application the following May (2013). Although HAL's Opening Statement seemed to suggest that the appeal proposals are promoted for the purpose of implementing "urgently required operational measures"[136] following the ending of the Cranford Agreement, neither the way in which the 2009 decision was expressed,[137] nor HAL's actions since then are consistent with the matter being treated as urgent. Given the effect of the proposal on the communities around the airport, it is a great deal more important to deal with the proposal properly than it is to deal with it urgently.

122. From HAL's Opening Statement alone, the reader might be forgiven for assuming that the appeal proposal would bring no operational benefits to speak of (and that was the position which also seemed to be adopted by Mr Thornely-Taylor when he said that the application brought no economic benefits to HAL. We consider this further below):

> *"The Appeal Proposals, therefore, are promoted at the request of the Government in order to bring greater equity to communities around Heathrow. They are, in themselves, an important mitigation measure that would bring relief to communities that have long been denied the benefit of respite. Importantly, the Appeal Proposals would not increase Heathrow's operating capacity, nor would they attract more passengers; they would instead redistribute existing levels of activity."*[138]

123. The Planning Statement submitted in support of the planning application[139] refers to the benefits that the application will deliver for the management of the airfield saying that "the works would enable aircraft to be more efficiently held and

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[132] HAL proposal #2 – see Mr Burgess' Appendix 15 p8; see also the Airports Commission Interim Report CD01/26 which supported the measure: paragraphs 5.43-5.44 and appendix 1 p10 2nd bp.
[133] Planning application made on 17 May 2013 (see the application form at CD01/01). The decision taken to end the Cranford Agreement can be seen within "Britain's Transport Infrastructure Adding Capacity at Heathrow: Decisions Following Consultation (January 2009)" CD01/25 pp26-27 paragraphs 74-75.
[134] See the Council's Scoping Report at ES Appendix E dated 22 August 2011, 1st paragraph
[135] ES Appendix F (correspondence) – last letter in the appendix: 11 November 2011 HAL to the Council
[136] INQ3 p9 paragraph 29
[137] "... the operating practice which implements the Cranford agreement should end as soon as practicably possible..." CD01/25 p27 paragraph 75.
[138] Opening Statement INQ3 p5 paragraph 16
[139] CD01/01 see p3 and see p8 para 2.1.6

sequenced by air traffic control prior to take off".[140] From a business perspective, Mr Burgess agreed (XX) that the full use of the northern runway on easterly operations is particularly important in terms of resilience in order to recover schedules or if the Southern Runway were to be closed for some reason; in other words it delivers additional flexibility for the airport.

124. Mr Burgess explained (EiC) that at present there are only two runway access points at the north western end of the northern runway and that the appeal proposal creates a third. That can be related to his appendix 14 (departures on 09L). It is worth noting that on the drawing (bottom right hand side 1st box) there is a reference to Q6, which Mr Burgess confirmed (XX) is a reference to Q6 business planning. In common with other measures listed above, these works are intended to be delivered by 2019. In Mr Burgess' written evidence, he made clear[141] that "in addition" to the hold area and the construction of a new connector taxiway, there are two small areas of additional pavement to enable A380s to access and exit the runway to meet the safety requirements of the CAA.

125. These physical works require the following to be considered in particular (see drawing 192 v1):[142]

(i) A12 and A13 fillets – which are needed only to allow access by large aircraft, eg A380s.[143] They are not necessary to allow take offs over Cranford from the northern runway.

(ii) A13E link and Link 59 – neither are strictly necessary to allow take offs over Cranford from the northern runway. Mr Burgess explained that the works were not a "prerequisite" to those operations, but without such changes the operations would not be resilient and "would present quite a challenge". The works provide "more options" and allow for the efficient movement of aircraft.[144]

126. Mr Burgess' written evidence did not address whether there would be any requirement to seek regulatory approval in order to implement scheduled departures east over Cranford. In evidence in chief he said that he thought that once there was planning permission in place, there would need to be a separate approval for an airspace change, to allow the introduction of full alternation. It would appear from the fact that it did not merit a mention in written evidence that HAL did not consider the existence of that separate regulatory process to present any impediment to implementation. It was not clear whether the remainder of Mr Burgess' evidence assumed such an approval was in place or not (when he came to consider what other approvals might be necessary for eg mixed mode), and he was unable to provide a clear answer in cross examination.

[140] Mr Rhodes PoE p7 para 2.12
[141] Mr Burgess PoE p18 para 4.1.1 3rd bp
[142] Drawing full reference number 10000-XX-GA-100-000192 version 1.0
[143] See Mr Rhodes PoE p7 paragraph 2.12
[144] Mr Burgess – answers to the Inspector's questions

Measures recommended by the Airports Commission: Operational Freedoms[145]

127. The Operational Freedoms measures proposed by HAL for implementation in the short term included:[146]

(a) Early vectoring

(b) Tactical use of both runways for arrivals

(c) Tactical use of the southern runway for the arrivals of A380s (ie even when the southern runway is the designated departure runway)

(d) Tactical use of the southern runway for T4 arrivals (ie even when the southern runway is the designated departure runway).

128. As HAL's proposals document explains (at page 9 paragraph 3.10), the normal operation at the airport is in segregated mode. Measures (b), (c) and (d) above allow for the suspension of alternation (ie mixed mode[147]) in certain circumstances. Paragraph 3.12 links early vectoring to the suspension of alternation. Heathrow's operation (at the time of the trials) was on a closed system – and the effect is that opportunities to enhance the flow of arrivals are limited by the system's impact on departures. In that context, early vectoring allows increased departure rates.

129. Contrary to the suggestion in Mr Burgess' written evidence (see his page 24 paragraph 5.2.23), the Airports Commission did support the introduction of early vectoring, in the context of the imminent introduction of redefined departure routes (as to which, see below):

> *"The early vectoring approach should be introduced as a permanent feature of Heathrow operations so long as it forms part of a permanent airspace structure. The Government should therefore support the airport in its efforts to expedite the redefinition of its departure routes both to mitigate noise impacts and to enable increased departure flow rates when necessary."*[148]

130. Early vectoring has the clear potential to give rise to significant noise effects. The Airports Commission said this:

> *"Early vectoring also redistributed the noise footprint within and near to the edge of the affected NPRs [Noise Preferential Routes] meaning that more people were impacted by aircraft noise in a given hour without the predictability of normal operations where aircraft would normally follow the central line of the departure route."*

131. Measures (b), (c) and (d) were also supported:

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[145] HAL proposal #3 – see Mr Burgess' Appendix 15 p8-9; see also the Airports Commission Interim Report CD01/26 at paragraphs 5.32 to 5.41
[146] See Mr Burgess' Appendix 15 p9
[147] Adding Capacity document CD1/24 p235 – note no reference to "schedule", also see "Mixed mode on existing runways" consideration within CD1/24 p74 – makes clear can be within the existing planning cap, see also p76 para 3.93 last bp
[148] Interim Report CD01/26 paragraph 5.41

"5.35... TEAM [Tactically Enhanced Arrival Management] is enacted when a set of trigger conditions are met, most notably a 20 minute delay on arrival. Its use is limited to six arrivals on the departure runway per hour.

5.36 Heathrow airport recently undertook a trial to test the impact of changing the trigger conditions for the use of TEAM so that it could be enacted if there was a 10 minute delay on arrival and the number of arrivals using TEAM per hour was increased to twelve arrivals per hour... the use of enhanced TEAM was self regulating... [this] appears to introduce more operational flexibility in Heathrow's ability to manage arrival delay.

5.37 Following consultation, Heathrow should continue to operate enhanced TEAM...

5.38 The number of A380s using Heathrow is set to increase over the coming years... in the short term the airport should have the operational flexibility to land A380s on the departure runway if this is necessary to retain the high levels of runway throughput required to meet the schedule. Heathrow should also have the flexibility to land arrivals for Terminal Four on the departure runway if this is the closest runway for the terminal to avoid aircraft having to cross the runway if delays are occurring."

132. Mr Burgess conceded (XX) that the suspension of alternation so as to allow these operational changes has the clear potential to give rise to significant noise effects.

133. A Ministerial Statement made by the Secretary of State for Transport Patrick McLoughlin said: "In relation to the Commission's recommendation for an Independent Aviation Noise Authority, the Government believes that it would be more appropriate to consider the role for such a body alongside the Commission's recommendations on long term capacity. Similarly, we believe that any further Government decisions on using the runway designated for departures (eg enhanced TEAM) and for a trial of early morning schedule smoothing at Heathrow should also be considered at that point and in the context of the Commission's recommendations on long term capacity."[149] As anticipated at the inquiry, the Commission's Final Report has now been published and it is expected that the Government's full response to it will be provided later in the year. As such, the Government's present position on the measures is neutral and any delay arising from the Ministerial Statement is likely to be minimal.

134. The Operational Freedom measures would if implemented increase flexibility and resilience.[150] They were proposed by HAL as measures which could "help hub competitiveness" and were capable of being delivered in the "short & medium term".[151] It can safely be assumed that HAL will do all in its power to deliver them, for the reasons explained.

135. So far as the feasibility of assessing the Operational Freedoms measures is concerned, it should be noted, as is clear from the written evidence of Mr Gibbs and Mr Burgess,[152] that the measures have already been trialled. Mr Gibbs points out

[149] Mr Burgess' Appendix 16
[150] Mr Burgess' appendix 15 para 3.7-3.9
[151] Mr Burgess' appendix 15 –p8
[152] Mr Rhodes appendix 5 p9 paragraph 3.3.9 and Mr Burgess PoE p24 para 5.2.20

that during those trials, "HAL collected detailed information on the impact on the environment".[153] It cannot credibly be suggested that it would not be feasible to include these measures within a cumulative assessment.

136. In all the circumstances, it is plain that the Operational Freedoms measures represent reasonably foreseeable operational changes with clear potential to give rise to significant environmental effects. They should be included within the cumulative assessment.

Measures recommended by the Airports Commission: Optimisation Strategy recommendations[154]

137. The Optimisation Strategy measures include the following:

a. ACDM (Airport Collaborative Decision Making)

b. Airspace changes supporting PBN (Performance Based Navigation)

c. Enhanced en-route traffic management

d. Time based separation

e. Queue management (which includes first come first served).

138. Of those measures, at least (a), (b), (c) and (d) are included within the Future Airspace Strategy.

139. The Commission recommended the implementation of the Optimisation Strategy in the short term, to improve the operational efficiency of UK airports and airspace.

140. It should also be noted that the Commission recommended the establishment of a senior delivery group to "drive forward" the implementation of the Future Airspace Strategy and the delivery of the Commission's recommendations.[155] Mr Burgess confirmed (XX) that such a group has been established with the aim of driving forward the Future Airspace Strategy and that Heathrow is committed to the implementation of the Future Airspace Strategy.

141. In his written evidence[156], Mr Burgess explained the importance of the Future Airspace Strategy and the way it is being taken forward in the UK. From that it can be seen that there is a delivery plan, which Heathrow is committed to. The intention is to deliver the first phase of the Future Airspace Strategy by 2025.[157]

142. ACDM has already been implemented at Heathrow. Mr Burgess explained (XX) that in part its aim is to use existing capacity efficiently. He accepted (XX) that this means that Heathrow will be able to use as much of the permitted 480,000 ATMs as

[153] Mr Rhodes appendix 5 p9 paragraph 3.3.9
[154] CD01/26 Chapter 5 summary box. NB Mr Burgess explained in XX that queue management including first come first served is also within this broad heading, see box 5A under paragraph 5.57 within the report (3rd bp from bottom); in HAL's proposals – Mr Burgess appendix 15, proposals #1 and #6.
[155] Interim Report summary box at the beginning of Chapter 5
[156] Mr Burgess PoE pp16-17
[157] Ibid p17 para 3.8.4(c)

possible without exceeding the cap and that is what he had meant by "using the available capacity more efficiently" in his written evidence.[158]

143. The redesign of London terminal airspace, including the use of PBN will have significant environmental effects. Mr Burgess did not dispute that (XX), nor could he, given the contents of the Guidance to the Civil Aviation Authority on Environmental Objectives Relating to the Exercise of its Air Navigation Functions 2014 ("the 2014 Guidance"),[159] which says, for example, "Concentration as a result of PBN is likely to minimise the number of people overflown, but is also likely to increase the noise impact for those directly beneath the track as they will be overflown with greater frequency than if the aircraft were more dispersed."[160] Nor can it be in any dispute that the dispersal patterns across the NPR/SIDS (Noise Preferential Routes/Standard Instrument Departures) swathes would differ post introduction, which means that what is shown in figure 6.13 in the ES (dispersal) is set to change in the near future. Mr Burgess' written evidence indicates that the timetable to introduction of PBN and associated redesigned NPRs is 2019-2020.

144. In these circumstances, it is hardly surprising that the Authorities are concerned about those significant changes being omitted entirely from consideration within the ES.

145. HAL offers two reasons for failing to include these changes within the cumulative assessment.

- The first is that it says that the changes will be dealt with through the airspace change process.
- The second is that it is not feasible to assess the changes.

146. These points will be dealt with in turn.

Airspace Change Process

147. We have made submissions about the fact that a separate regulatory regime does not obviate the need for a proper cumulative assessment. To that, we would add the following submissions about the characteristics of the airspace change process.

148. It is necessary here to consider the Civil Aviation Authority (Air Navigation) Directions 2001 (as amended) ("the Directions")[161].

149. Whether the Directions are engaged depends on the application of paragraph 9 (a) to (c). Views seem to differ about the application of the Directions – there is a narrow construction, as per CAP725 introduction p2 vii;[162] and seemingly a rival,

[158] Mr Burgess PoE p23 para 5.2.11
[159] CD01/23A
[160] P16 para 4.17. See also para 4.18 and p27 para 7.25
[161] CD/01/23c
[162] CD04/01. We understand that a judicial review has been brought by Martin Barraud against a decision of the Civil Aviation Authority ("the CAA") (in which the Secretary of State and Gatwick Airport Limited are interested parties). The matter challenged is the CAA's failure to ensure that public consultation takes place in respect of an airspace change or changes at Gatwick airport. In that case, we understand that what is meant by "airspace change" in the Directions is in dispute, with the CAA interpreting airspace change narrowly.

wider construction – that advanced by Mr Phillpot in XX of Mr Thynne, "any change to or use of physical airspace", which was apparently based on "instructions" rather than on any authority or guidance. That difference of interpretation does not affect the application of the directions in relation to PBN, given that it is accepted that NPRs will have to change,[163] but it does need to be taken into account in terms of the other aspects of the Optimisation Strategy not already implemented and other measures where HAL relies on the existence of a separate process as reducing the "certainty" of an operational change being implemented.

150. The decision maker for any application which engages the Directions depends on a judgment made by the Civil Aviation Authority (CAA) itself about the environmental significance of the change. It is therefore difficult to predict who is likely to be the decision maker in relation to any particular application.

151. The airspace change regime is no substitute for Environmental Impact Assessment under the EIA regulations.

152. First, the airspace change process does not require EIA. It does not engage the EIA regulations. No environmental statement within the meaning of the EIA regulations is required to be produced and there is no legal restriction on granting consent without taking account of environmental information within an environmental statement. EIA is required as a matter of pure law by reference to the EIA Directive and the EIA Regulations, irrespective of the existence of another assessment method.

153. Secondly, the airspace change process compares poorly to the EIA process in terms of its requirements. The only express legal requirement is contained within s.70 of the Transport Act 2000:

> "(2) The CAA must exercise its air navigation functions in the manner it thinks best calculated—
>
> (a)...
>
> (d) to take account of any guidance on environmental objectives **given to the CAA by the Secretary of State after the coming into force of this section**" (Emphasis added by the Authorities).

154. There are no specific legal requirements dealing with, for example, the content of environmental information, nor consultation. That can be contrasted with the rigour of the EIA regulations, which make specific provision in relation to those matters.

155. It will be apparent that there is only one extant source of guidance which has been given to the CAA post the coming into force of that section,[164] the 2014 Guidance. CAP725, produced by the CAA itself, does not have the same status and is not required by s.70 to be taken into account in decisions in relation to airspace changes.

156. Thirdly, even interpreting the Directions widely, taking the CAP725 guidance at face value (as HAL seems to, per the XX of Mr Thynne) and applying the 2014 Guidance,

[163] The 2014 Guidance p16-17 para 4.18 and see CAP 725 introduction p2 vii(c)
[164] 1 February 2001

the process it suggests falls far short of the requirements in the EIA regulations regime. Mr Thynne was right to give the examples he did, they are obvious and important shortcomings.

157. Publicity and procedures are precisely regulated by the EIA regulations under Part 5.[165] The regulations govern who is to be notified and in what circumstances (regulation 16 and 17). Where advertising in a local newspaper is required, the content of the advertisement is prescribed and the period within which documents are to be available for inspection post publication of the advertisement is also prescribed (regulation 17). A site notice is required, its contents are prescribed (regulation 17) as is the period for which it must be left in position. A reasonable number of copies must be available for inspection (regulation 20). Similar procedures apply when further environmental information is submitted (regulation 18).

158. Obviously, these requirements cannot be compared with CAP725 or the 2014 Guidance simply because the former have the force of law whereas the latter form guidance to be taken into account. The careful and rigorous process can be contrasted with either CAP725, or the 2014 Guidance. Neither emerges well from the comparison (even if their contents were to be treated as being legal requirements, which they are not).

159. CAP725 is out of date in that it is based on the Guidance to the CAA issued by DTLR (Department of Transport, Local Government and the Regions - now DfT) in 2002[166] rather than on the 2014 Guidance. If one looks to find consultation requirements, all that is available is broad statements of principle, such as "Environmental assessments should be... participative – providing appropriate opportunities to inform and involve interested and affected individuals and groups, ensuring that their inputs and concerns should be considered in decision making". On its own terms, it is unobjectionable, but it does not safeguard minimum standards of consultation as the EIA regulations do.

160. The 2014 Guidance also leaves much to the discretion of the decision maker. In the case of permanent changes, it says this:

> *"9.2 The CAA shall ensure that an adequate level of consultation is undertaken for any given airspace change. The level of consultation required should take account of the scale and impact of the change, and the range of potential stakeholders involved... The minimum requirements set by the CAA should meet the standards set by the Cabinet Office Guidance on Consultation. The method, form and extent of the consultation will vary depending on the circumstances and expected impacts of each case..."*[167]

161. For temporary changes, no consultation at all is required.[168]

162. The content of environmental statements is set by the EIA regulations. As Mr Thynne explained (EiC), regulation 3 prohibits the grant of planning permission

[165] CD01/15
[166] Guidance to the Civil Aviation Authority on Environmental Objectives Relating to the Exercise of its Air Navigation Functions DTLR 2002, see CAP 725 Appendix B p1 para 4
[167] P32
[168] P34 para 9.10

or subsequent consent without consideration of environmental information. Regulation 2 (interpretation) says "environmental information" means the environmental statement, including any further or other information etc. Environmental statements are defined as a statement "that includes such of the information referred to in Part 1 of Schedule 4 as is reasonably required to assess the environmental effects of the development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile".

163. Cumulative assessment is a good example to consider. The regulations include a requirement (subject to the qualifications within the definition above) that an environmental statement must include "a description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative... effects of the development..."[169]

164. The best reference to something which could be construed as referable to a cumulative assessment in CAP725 (and HAL seemed to construe it in this way, XX of Mr Thynne) is this: the "[2002] guidance requires DAP to proceed in a manner that is... forward looking – by taking account of likely future as well as current planned operations, with a view to delivering stability in airspace arrangements as far as practicable".

165. That is no substitute for a proper requirement that a cumulative assessment be carried out within an environmental assessment process. CAP 725 seems only to be encouraging decision makers to have regard to likely future operations, not to ensure the adequacy of environmental assessment, but to "deliver stability" in airspace arrangements.

166. The 2014 Guidance includes specific guidance on proposed airspace changes which may have a significant detrimental effect.[170] That section does not mention any requirement to provide a cumulative assessment, nor does any other part of the Guidance.

167. For all these reasons, the existence of the separate airspace change process has no real bearing on whether the operational changes in question should be included within a cumulative assessment. Whether or not that separate process applies, such changes as are reasonably foreseeable should be included.

Feasibility of assessing the Optimisation Strategy changes

168. The starting point here should be an acknowledgment that both the Airports Commission and the Secretary of State for Transport have had sufficient information that they have been able to conclude on the merits of the Optimisation Strategy and supported their introduction.

169. HAL has conducted trials of the use of PBN[171] and, as Mr Burgess explained (EiC) has records of the outcome of those trials. Mr Gibbs said that there had been "some testing of this measure previously but only used concept designs".[172]

[169] Part 1 of Schedule 4
[170] P25
[171] See Mr Burgess' PoE p25 para 5.2.29
[172] Mr Rhodes' appendix 5 p10 para 3.3.22

170. While Mr Rhodes may have expressed scepticism (XX) in relation to the use of stated assumptions in order that new NPRs could be assessed within a cumulative assessment, Mr Burgess certainly seemed to appreciate (in XX) that there is no reason in principle why HAL could not have used indicative NPRs and departure swathes, in a manner similar to that used in the Adding Capacity at Heathrow Consultation document.[173] Of course, it is still open to the Secretaries of State to require it. As noted above, it is not uncommon for cumulative assessments to be carried out on specified assumptions and it is certainly not a reason to fail to do the assessment.

171. In conclusion, the Optimisation Strategy measures also represent reasonably foreseeable operational changes with clear potential to give rise to significant environmental effects.[174] They should be included within the cumulative assessment.

Measures recommended by the Airports Commission: more night flights ("early morning schedule smoothing")[175]

172. The Airports Commission recommended a trial of "early morning schedule smoothing", ie allowing more flights in the 0500 - 0559 hour, which are categorised as "night flights".[176] Increasing the number of night flights has obvious potential to lead to significant environmental effects, given the sensitivity of the night time period for local residents.

173. The Airports Commission recommended a trial of that operational change (see paragraph 5.53): "Heathrow airport should progress a trial of this proposal with a view to implementing the change permanently if the trial demonstrates a reduction in airborne holding and a reduction in the use of TEAM on a regular basis…". It is thus envisaged that the trial will lead to the permanent implementation of the measure. It will also be remembered that a trial for a temporary period would not require consultation.

174. It was Mr Burgess' evidence that HAL has decided not to progress the trial for the time being bearing in mind the Ministerial Statement which indicated that any further decision on early morning smoothing should be considered alongside the Government's consideration of the Airport's Commission full report.[177] He said (XX) that the decision was taken "until further notice", by HAL's executive committee. He acknowledged that the operational change would bring benefits to Heathrow in the form of increased flexibility (XX) and that the executive committee could revisit its decision when it chose to do so. While regulatory approval would be required to implement the change, he confirmed (XX) that HAL would not assume that any

[173] CD1/24, see for example p24 para 1.24 and figure 8a to figure 11 on p51 & on.
[174] PBN was considered specifically above. The Airports Commission looked at the Optimisation Strategy measures collectively and said, "changes as in the optimisation strategy inevitably affect populations subject to aircraft noise and so require the airport and air traffic control to consult with communities near airports..." see paragraph 5.63.
[175] HAL proposal #4 (Mr Burgess appendix 15 p9 paras 3.15-3.16) Airports Commission Interim Report CD01/26 para 5.45 to 5.54 and Appendix 1 p9 para 2.2 2nd bp. See Mr Burgess' PoE p23 para 5.2.13 and on.
[176] Mr Burgess' PoE p15 para 3.7.1
[177] Mr Burgess PoE p23 para 5.2.17

application in that regard would be unsuccessful, given the benefits identified by the Airports Commission.

175. The operational change remains reasonably foreseeable (unless a condition is imposed to prevent its introduction) and it should be included within a cumulative assessment.

Measures recommended by the Airports Commission: ending westerly preference[178]

176. HAL's proposal to the Airports Commission included ending westerly preference, as a change which could add capacity and was capable of being delivered in the short/medium term.[179] The basis upon which it was proposed was that things had changed since the policy was first introduced (paragraph 3.20); departure noise was considered more disruptive when the policy was introduced than it is now.

177. The Airports Commission agreed with HAL and recommended it as a change which should take place to increase capacity in the short term. It suggested that "Government should review the need for a westerly preference with a view to introducing a 'no preference' policy".[180]

178. Mr Burgess' written evidence indicated that HAL will pursue this change, but only after implementation of full alternation on easterlies.[181] In other words, as Mr Burgess sees it, this application facilitates the removal of westerly preference.

179. In Mr Burgess' EiC, he suggested that the removal of westerly preference would require airspace change approval. He said that he thought the change would be to ATC procedures – ie to those procedures within the UK Aeronautical Information Publication,[182] which relied upon a wide interpretation of the Directive (see above).

180. He suggested that any approval would have to be by the Secretary of State,[183] applying the Directions (see above). That must be read as a concession that the removal of westerly preference would have a significant environmental effect.

181. Neither Mr Burgess nor Mr Gibbs[184] suggested that the removal of westerly preference was incapable of assessment, if HAL was required to include it within a cumulative assessment.

182. The removal of westerly preference should be included within a cumulative assessment. It is reasonably foreseeable (unless a condition was imposed to prevent its removal). It should be included within the cumulative assessment for this development.

[178] HAL proposal #7 (Mr Burgess' appendix 15 p10), Mr Burgess' PoE p26 para 5.2.37 & on, Airports Commission Interim Report CD01/26 para 5.42 & Appendix 1 p10 para 2.2 3rd bp.
[179] HAL proposal #7 (Mr Burgess' appendix 15 p10)
[180] Airports Commission Interim Report CD01/26 para 5.42
[181] Mr Burgess' PoE p26 para 5.2.38
[182] Mr Burgess' appendix 17
[183] Mr Burgess' PoE p13 para 3.4.6
[184] Mr Gibbs deals with westerly preference in his first report at p10 para 3.3.20-3.3.21 (Mr Rhodes' appendix 5)

Measures recommended by the Airports Commission – medium term: introduction of full mixed mode[185]

183. Full mixed mode is in contemplation by HAL as part of a transitional plan towards a third runway. The Airports Commission recommended it although not as a short term measure. The Commission pointed out that there was in its view a "strong case that implementation of [full] mixed mode is neither quick nor easy and would inevitably come at a significant cost to local communities". Accordingly, while it did not form part of the short term recommendations, it was kept as an option for the medium term.[186]

184. Mr Burgess agreed (XX) that the issue as far as he was concerned was not whether mixed mode was capable of assessment within a cumulative assessment, but rather whether its introduction was sufficiently likely that it warrants assessment. Mr Rhodes conceded (in XX) that there is sufficient information available for the Secretaries of State to consider and make judgments about its effects. Where, as here, information is relatively limited (although we later consider what Adding Capacity said about mixed mode), such an exercise may be done at a "high level" (Mr Rhodes XX) or as per the EU Commission Guidelines, on specified assumptions.

185. In the Authorities' view, the introduction of mixed mode is reasonably foreseeable. Unless a condition is imposed, the effects of mixed mode should be assessed within a cumulative assessment.

NOISE
(RfR 1 and issue (iv))

186. This section is set out under the following headings:

a. Introduction

b. The statutory development plan

c. Other relevant policy and guidance

d. Community reaction to noise

e. Assessment of scheme effects

f. Appropriate mitigation

Introduction

187. The Government recognises that noise is "the primary concern of local communities near airports"[187] and Heathrow is, in terms of the numbers of people affected by aircraft noise, one of the most polluting in the world[188]. There can therefore be no dispute that it is necessary to consider carefully the changes to the noise environment around the airport caused by the appeal proposals, ensuring that the

[185] Mr Burgess' appendix 15 p2 under the heading "a new view on noise respite under mixed mode operations", Airports Commission Interim Report CD01/26 para 5.111.
[186] Airports Commission Interim report para 5.114
[187] APF CD01/17 p55 para 3.2
[188] Para 8.1.1 and footnote 42 of Mr Fiumicelli's PoE

assessment of effects is meaningful and appropriate bearing in mind those particular changes.

188. As stressed earlier in this statement, the Government's decision to end the Cranford agreement was predicated on the provision of appropriate mitigation. A planning application was the necessary means for that to be secured[189], and the Authorities are concerned to ensure that the necessary mitigation is secured by means of conditions and/or legal obligations in accordance respectively with s70 (and s72), and 106 of the Town and Country Planning Act 1990. The issue of mitigation must of course be considered taking into account the relevant statutory development plan policy and other material considerations, including national policy and relevant guidance, and in particular paragraphs 203 to 206 of the NPPF.

189. The Authorities note that HAL has not sought to suggest that less than adequate mitigation should be accepted because, for example, the economic benefits of the development outweigh the harm. Mr Thornely-Taylor asserted that, "unlike most airport inquiries, these development proposals have no economic consequences. [It is] solely about fairer distribution of noise around the airport".[190] The extent to which the proposals benefit the airport by providing resilience and flexibility will be considered further later in these submissions, but it is important to note here that it is no part of HAL's case that the mitigation they propose is inadequate to address the scheme's effects, but that planning permission should nonetheless be granted. It can therefore be said that HAL's aim is precisely the same as that of the Authorities – to ensure that local communities are properly protected from the adverse effects of noise resulting from the appeal proposals.

190. The real and overriding issue that lies between the parties in relation to noise is the adequacy of the mitigation proposed as part of the scheme. As reflected in the Council's reasons for refusal, and the other Authorities' representations, the Authorities' position is that HAL has underestimated the adverse noise impacts of the appeal scheme and has not proposed adequate or sufficient mitigation measures so that the health and well-being of local people is properly protected.[191]

191. The Authorities seek to ensure that appropriate mitigation is offered to residential properties and to schools, community buildings and for public open spaces. Their position in this regard is founded in and consistent with the statutory development plan, national policy and guidance.

The statutory development plan

192. As has been noted above, the starting point here is the development plan, as per s.38(6) of the Planning and Compulsory Purchase Act 2004. The appeal application is not an application affected by Nationally Significant Infrastructure Project provisions; and the starting point is not a National Policy Statement. The APF does not enjoy similar status.

[189] CD01/18 2nd page last para
[190] Mr Thornely-Taylor XX
[191] Here again, HALs sought to mischaracterise the Authorities' case. Its attempt to treat the Authorities' case as merely one of a criticism of the methodology used in the primary case in the environmental statement (which HAL said could be met simply by the provision of further information using different metrics) had no genuine basis and was, as with other attempts to mischaracterise the Authorities' case, merely a forensic tactic.

193. In his written evidence, Mr Thornley-Taylor included brief mention of some of the relevant statutory development plan policies. Significantly, as he accepted in XX, he did not provide any conclusion in relation to the appeal proposal's compliance with those policies (see his paragraph 9.1.14 in which he asserts compliance with the APF, NPSE and the PPG but does not mention the statutory development plan). In re-examination, he was asked whether he thought applying those policies would lead him to any different conclusions. His response was that he believed the tests would be the same. That exchange seeks to excuse a serious failing in the HAL case, which is its lack of regard for the statutory development plan.

194. The policies within the development plan which ensure that noise impacts are properly assessed and adequately mitigated provide strong local control over noise generating development. Mr Rhodes' argument that paragraph 14 of the NPPF applies here because the relevant policies are "silent" in relation to the principle of the Cranford agreement should be rejected. The statutory development plan is not to be regarded as absent, it is not silent and its relevant policies are not out of date.

The Hillingdon Local Plan Part 1 (November 2012)[192]

195. Policy EM8 of the Local Plan Part 1 is found within section 8 Core Policies: Environmental Improvement. Strategic objective SO10 within that section seeks to, "reduce adverse impacts from noise". The text acknowledges that "noise remains a main challenge in the borough" (paragraph 8.123). Policy EM8 says that, "the Council will seek to ensure that noise sensitive development and noise generating development are only permitted if noise impacts can be adequately controlled and mitigated". There cannot be compliance with that policy if there has been either a failure to assess noise impacts properly, or if the mitigation proposed is not adequate.

196. Policy T4 of the Local Plan Part 1 is within section 9 Core Policies: Transport and infrastructure. Its associated strategic objective is SO25 "maintain support for operational uses within the existing airport boundary that do not increase environmental impacts and continue to reduce existing impacts". Policy T4 indicates that the Council will support the "sustainable operation of Heathrow within its present boundaries". A proposal which fails adequately to mitigate noise impacts could not be regarded as sustainable, and for that reason would not comply with T4.

The Hillingdon Local Plan Part 2 (November 2012)[193]

197. Policy A1 of the Local Plan Part 2 makes plain that Hillingdon will oppose proposals which "result in significant harm to the local environment and... fail to include sufficient measures to mitigate or redress the effect of the airport on the local environment". Policy A2 provides that planning applications for proposals within the boundary of the airport which are "likely to have significant adverse environmental impact" "should include sufficient measures to mitigate for or redress the effects of the airport on the local environment". Both policies are directed to harm which is properly characterised as "significant" and require mitigation to address that harm.

[192] CD01/20
[193] CD01/21

198. Policies OE1 and OE3 are directed to harm which is "detrimental to the character or amenities of the surrounding areas or the area generally" (OE1) or which has "the potential to cause noise annoyance" (OE3). For these less significant impacts too, the statutory development plan requires mitigation.

The London Plan (March 2015)[194]

199. The London Plan is also relevant and up to date. Indeed, the new text has only recently been approved. Its policies provide important tests for the appeal proposal.

200. Policy 6.6 of the London Plan deals with aviation. Sections C and D are relevant. The Inspector and the Secretaries of State will have to consider the extent to which HAL's proposals "take full account of environmental impacts", as we have already submitted. Taking full account of environmental impacts clearly means assessing those impacts properly and then providing appropriate mitigation to address them. A judgment that HAL's mitigation is not adequate would be contrary to the strategic aim in part C of the policy. Such a judgment would also put the development in conflict with part D.

201. Policy 5.3 is also relevant in so far as it requires new developments to accord with sustainable design principles including "minimising pollution (including noise…)…".[195]

202. Policy 3.2 of the London Plan is a high level policy dealing with a strategic aim, but its aim is important here. It indicates that the impact of major development proposals on the health and wellbeing of communities should be considered, for example through the use of Health Impact Assessments. Parts C and D require that new developments should be designed, constructed and managed in ways that improve health. It follows that if there is inadequate mitigation, the aim of this policy would be undermined (there is specific reference to reducing noise in paragraph 3.10A of the supporting text).

203. Policy 2.6, which provides a vision and strategy for outer London, is also a high level policy. It calls for stakeholders (which would include HAL) to enhance the quality of life in outer London for present and future residents. Failure to provide adequate mitigation of the appeal proposals would also run counter to the aim of this policy.

204. Policy 7.15 of the London Plan concerns "reducing and managing noise, improving and enhancing the acoustic environment and promoting appropriate soundscapes". It is an important policy but as has already been noted, HAL failed to properly address it. Policy 7.15 incorporates advice from the PPG, requiring the management of noise by "avoiding significant adverse noise impacts on health and quality of life" and "mitigating and minimising the existing and potential adverse impacts of noise...". The policy is sub-divided into parts: Ba, Bb and Bf are relevant and important. The provision of inadequate mitigation would mean conflict with those parts of the policy. As far as Bc is concerned, in so far as no improvement or enhancement is provided, the aim of that part of the policy would be undermined in the absence of adequate mitigation.

[194] CD01/19
[195] Para 6.10 of Mr Waite's PoE

Other relevant policy and guidance

The Hounslow UDP (2003)[196] *and the emerging Hounslow Local Plan (2015)*[197]

205. Hounslow's policies are notable by their absence from the HAL evidence. Mr Rhodes makes passing reference only to the emerging plan, commenting that its policies "recognise the primacy" of the APF (as to which, see above).

206. The evidence of Mr Chivers provides a summary of the relevant Hounslow policies.[198] Within the UDP, policy ENV-P.1.5 Noise Pollution makes clear that, "the Council will not allow any development proposal which could result in unacceptable levels of noise nuisance to nearby existing or future occupiers". While policy T6.2 Airport Runway Capacity is directed to proposals for runway capacity, its aim is consistent with ENV-P.1.5, in that it seeks to prevent unacceptable noise levels, including at night.

207. The emerging local plan contains policies EQ5 and EC3. The draft plan is at an advanced stage. It has been examined and Hounslow has conducted a consultation on main modifications. It can now be given significant weight, applying paragraph 216 of the NPPF.

208. Policy EQ5 is a general policy on noise. It includes a requirement that noise mitigation measures are implemented to demonstrate compliance with British Standard BS8233: 2014 Guidance on sound insulation and noise reduction for buildings. The policy does not limit compliance with the British Standard to new build homes, it is a more general requirement in respect of the implementation of noise mitigation measures. That is for good reason: the standard is directed to securing a satisfactory internal noise environment for people in their own homes. As such, it provides useful guidance on what standard should be aimed at by the provision of noise insulation. As we shall submit later in these submissions, BS8233: 2014 is a very important document in the context of ensuring appropriate mitigation against the adverse effects of the appeal scheme.

209. Policy EQ5 and the notes make reference to the APF. It does not describe it in a manner which would suggest it has "primacy", nor would it be apt if it did. The APF is an important material consideration in the context of aviation development and aircraft noise, and it is right that the emerging policy should refer to it, but it does not supersede or trump the development plan. Nor is there anything in the draft policy that requires the application of the specific figures in the APF (for example paragraphs 3.36 or 3.39); if that had been intended it would have been said.

210. Within the "Notes" to EQ5, at 9.11, it is suggested that family housing and non-residential noise sensitive development should be located outside the 63dB LAeq contour, indicating a concern about high levels of aircraft noise.

211. Policy EC3 Heathrow Airport should also be taken into account in the decision on the appeal. At (h) it says that Hounslow will expect development proposals to, "demonstrate that air and noise pollution from aircraft movements... avoid adverse impacts on the borough". At (i) it requires that applications "assess and illustrate

[196] INQ21A
[197] INQ21B
[198] See Mr Chivers' PoE pp12-14

the noise impacts of any development proposal, including the use of alternative noise metrics (ie alternative in addition to the dBLAeq, 16 h)". The policy support for the use of alternative metrics to the LAeq, 16hr is of course important; the Authorities' case is that alternative metrics ought to be used to assess the effects and need for mitigation of the adverse noise effects of the appeal scheme.[199]

The NPSE[200]

212. The NPSE was published in 2010. In short, its noise policy aims are:

a) Avoid significant adverse effects

b) Mitigate and minimise adverse effects

c) Where possible contribute to improved health and quality of life.

213. At 2.14 of the NPSE the Government acknowledges that there is emerging evidence as to the long term direct health effects of noise and explains its intention to keep research on the health effects of long term exposure to noise under review.

214. Key phrases within the NPSE include NOEL (no observed effect level), LOAEL (lowest observed adverse effect level) and SOAEL (significant observed adverse effect level).

215. For any development, its aims are to avoid significant adverse effect; mitigate and minimise adverse effects; and, where possible, contribute to improvement of health and quality of life. Mr Thornely-Taylor accepted (in XX) that the second aim – to mitigate and minimise – necessarily involved both mitigating and minimising adverse effects. He also agreed that these aims are consistent with those of the NPPF (as to which, see below).

216. That second aim refers to a situation where the impact lies somewhere between LOAEL and SOAEL (paragraph 2.23). It requires that "all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development." Mr Thornely-Taylor accepted in XX that it was a relevant question for the Secretaries of State, to determine whether HAL has taken all reasonable steps to both mitigate and minimise noise impacts which fall between LOAEL and SOAEL. It is the Authorities' case that the Inspector and the Secretaries of State should indeed ask this question.

217. Mr Thornely-Taylor did not claim compliance with paragraph 2.23 of the NPSE on the basis of the scheme's sustainability benefits (as per paragraph 1.8 of the NPSE – what he said has already been quoted: it was his evidence that the scheme brings no economic benefits, only a fairer distribution of noise, and his judgments were made on this basis).[201]

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[199] HAL made some play of the fact that they had received a draft version of Mr Chivers' proof of evidence, but as made clear in INQ 25A, the correct version of the evidence had been sent to the Inspectorate and, in any event, the point goes nowhere.
[200] CD02/03
[201] There was a rather obvious attempt in re-examination to reverse the evidence that Mr Thornely-Taylor had given in XX.

218. In relation to the third quite separate aim (where possible to possible contribute to improved health and quality of life), the NPSE suggests that there will be "opportunities" to enhance the acoustic environment. The removal of the Cranford agreement of course presents just such an opportunity for the wider community around Heathrow – but its implementation must however be subject to appropriate mitigation for those communities that would otherwise suffer a harmful increase in noise. In his consideration of mitigation of adverse noise effects from the appeal proposals Mr Thornely-Taylor did not claim that the third aim was met by the appeal proposals, nor even suggest that it was relevant.[202]

The NPPF[203]

219. The NPPF was published by the Government in March 2012. It is Government policy to, "prevent new...development from contributing to...unacceptable levels of... noise pollution" (paragraph 109).

220. Mr Thornely-Taylor's PoE at 2.3.4 says that as there is no definition of "unacceptable" it is therefore up to decision makers to decide what that is, and that is correct. As he agreed (in XX), in judging whether the test is met, the adequacy of mitigation falls to be considered. The application of the paragraph requires all the circumstances of the case to be taken into account. While Mr Thornely-Taylor only reluctantly accepted the point in XX, it would support refusal of planning permission if new development contributed to unacceptable levels of noise.

221. Paragraph 123 of the NPPF says:

> *"Planning policies and decisions should aim to:*
>
> *• avoid noise from giving rise to significant adverse impacts [FN27] on health and quality of life as a result of new development;*
>
> *• mitigate and reduce to a minimum other adverse impacts [FN27] on health and quality of life arising from noise from new development, including through the use of conditions..."*

222. Footnote 27 refers to the NPSE for definitions of "significant adverse impacts" and "adverse impacts". These are two separate but parallel aims.

223. It is a relevant and important paragraph within the NPPF, but no reference was made to it within Mr Thorney-Taylor's written evidence. He did however accept (in XX) that the second aim is concerned with impacts between LOAEL and SOAEL and that Government policy requires that such impacts must be both "mitigated and reduced to a minimum": that they are different things and that in order to comply with policy, both must be satisfied.

224. Mr Rhodes' position was that the NPPF "contains relatively limited text in relation to both noise and airports and in each case it defers to other documents".[204] There seemed to be no recognition in his evidence of the importance of the expression of the Government's overarching policy aims within the NPPF. It is true that the NPPF

[202] Paras 8.5.1 to 8.5.4
[203] CD01/16
[204] Mr Rhodes' PoE p16 para 4.2

makes reference to the NPSE, but the NPPF does not "defer" to it, if that suggests some subservience in policy terms.

225. There is nothing in the APF or the NPPF to indicate that there is a hierarchy of national policy which favours the APF as having some higher status. Indeed, it is the NPPF that provides the foundation for relevant Government policy relating to planning applications for airport related development. In particular, paragraph 123 establishes the governing principles in relation to the adverse noise effects arising from development proposals. Whilst the APF provides further text in relation to mitigation of adverse effects of aircraft noise, there is nothing to say that these governing principles are in some way overtaken. Indeed, as emphasised by Mr Waite during cross examination, the only way to interpret and apply the APF properly in this case is to do so in the context of and with direct reference to those principles.

226. Moreover, the APF addresses directly its own status and materiality in planning decisions (paragraphs 5.1 and 5.6). It says that it "may also be a material consideration in planning decisions depending on the circumstances of a particular application". There is no suggestion, whether there or elsewhere, that it has "primacy" or takes preference over other sources of relevant Government policy. In fact, paragraphs 3.20 and 3.21 refer directly to the NPPF's overarching aims. It is not to say that the APF is not an important material consideration; it is, but it must be read with the NPPF, the NPSE and in turn the PPG.

The APF[205]

Noise assessment and metrics

227. We comment later on what the Government says in the APF in relation to the 16hr LAeq and annoyance, but here refer to what is said more generally about noise assessment. The APF provides guidance in relation to the way in which aircraft noise should be assessed.[206] It says that "average noise exposure contours [eg Leq,t] are a well-established measure of annoyance and are important to show historic trends in total noise around airports". It is thus clear that the Government expects to see noise assessed using averaging metrics. Equally clear is that the Government accepts that, "people do not experience noise in an averaged manner and that the value of the LAeq indicator does not necessarily reflect all aspects of the perception of aircraft noise". For those reasons, it recommends that average noise contours "should not be the only measure used when airports seek to explain how locations under flight paths are affected by aircraft noise. Instead the Government encourages airport operators to use alternative measures which better reflect how aircraft noise is experienced in different localities. The objective should be to ensure a better understanding of noise impacts and to inform the development of targeted noise mitigation measures."

228. In acknowledging the dangers in average contours the Government expressly invites consideration of other measures. The Government expects that alternative metrics will be used not only to ensure that impacts are better understood, but also to inform what mitigation measures might be necessary. There is also an express

[205] CD01/17
[206] CD01/17 p58 para 3.19

reference to the need to use alternative measures which better reflect the noise experienced in different localities, with a footnote that provides the examples of "frequency and pattern of movements…" (of particular relevance to Heathrow, as illustrated below). Where there is a better way of assessing noise effects, the Government encourages it to be used. Where there are supplementary metrics or measures, the Government encourages their use.

229. Mr Thornely-Taylor acknowledged in XX that the objective is to ensure that noise impacts are better understood and to inform targeted noise mitigation measures.

Mitigation

230. The APF's overall policy on aviation noise "to limit and, where possible, reduce the number of people significantly affected by aircraft noise" (paragraph 3.12) is consistent with the NPPF and (per paragraph 3.13 of the APF) with the NPSE.

231. Paragraph 3.20 of the APF makes reference to the explanation of the relationship between the APF and other planning guidance and policies within section 5 (see above). As we have already noted, it refers to paragraph 123 of the NPPF and its two main aims. It is clear that there is no change to Government policy in this respect and the APF is not intended to supersede the NPPF, or indeed the NPSE.

232. Paragraph 3.24 of the APF says, with reference to the potential costs on industry, that efforts should be "proportionate to the extent of the noise problem and numbers of people affected". This seems to tie in with Mr Thornely-Taylor's view that because the proposed development did not give rise to economic benefits for the airport, there was no requirement for more generous mitigation. It is unclear how the Inspector and Secretaries of State can place any weight on that argument in the absence of viability evidence. Nor is it clear how his evidence sits with that of Mr Burgess (in XX). Mr Burgess explained in some detail the fact that flexibility and resilience is crucial to Heathrow's commercial success; and that the appeal proposals deliver significant flexibility and resilience (benefits that are actually recognised by the Government in the first sentence of paragraph 1.63 of the APF).

233. Paragraph 3.28 is an important part of Government policy and makes clear that, "Government expects airports to make particular efforts to mitigate noise where changes are planned which will adversely impact the noise environment". In line with NPPF and NPSE, Government policy here is not limited to "significant adverse" effects but relates to "adverse effects". HAL must therefore make "particular efforts to mitigate noise" in this case where changes are planned which have adverse effects. "Particular" here is not about "specific mitigation measures" (cf Mr Thornely-Taylor's answers in XX). That construction of the paragraph is untenable and would rob it of any force. The word "particular" is of course directed to the efforts which should be made to mitigate adverse effects and it is an additional element to the two aims in paragraph 3.20. There should be "particular efforts" to mitigate adverse noise effects where, as here, there are changes to operational procedures especially where these will give rise to a noticeable impact on local communities.

234. What aircraft noise level constitutes an adverse effect, or a significant effect, or LOAEL, or SOAEL, is not established within the APF. As with the NPPF and NPSE, that is left to the decision maker in each case, having regard to the PPG.

235. The noise insulation and compensation section of the APF (page 63) deals first with the Government's general expectation in relation to what operators should be offering within their insulation and compensation schemes (paragraphs 3.36 to 3.38). It then turns (paragraph 3.39) to situations where an increase in noise is anticipated. While only paragraph 3.39 includes the words, "as a minimum", the standards for compensation schemes must be construed as minima, because any reduced provision would not comply with policy, and there is no suggestion in the APF that operators should not be more generous. Indeed, as has already been highlighted, industry's role is to make proportionate efforts to address noise, depending on the extent of the noise problem and the numbers of people affected (paragraph 3.24). Compared to other UK airports[207], Heathrow's impact is very significant and in consequence, it seems unlikely that there can be any other airport in the country with a greater need to tackle noise.

236. Paragraph 3.39 deals expressly with situations "where airport operators are considering developments which result in an increase in noise". There was no corresponding paragraph within the draft APF.[208] The passages in the draft APF which were the equivalent of the noise insulation and compensation section in the APF related only to compensation schemes.

237. Paragraph 3.39 refers to 63dB LAeq, 16 h or more and relates to acoustic insulation only. That level is not said to equate to LOAEL or SOAEL (that is a judgment for the decision maker). The expectation that operators will provide noise insulation at that level is expressed "as a minimum". It plainly contemplates that more than this might be appropriate in a given case. There is no fixed prescription for mitigation here or anywhere else in the APF. It is for decision makers to determine what mitigation is necessary having regard, as we have stressed, to other parts of the APF as well as the NPPF, NPSE and PPG having regard to the relevant local circumstances of a given case (paragraphs 3.36 to 3.39 of the APF are clearly not airport specific, let alone Heathrow specific; see also paragraph 3.19); and that decision should be made also taking into account what is said at paragraph 3.28, that "particular efforts" should be made to mitigate where changes are planned which will adversely affect the noise environment.

238. Where, as here, development was contemplated by HAL which would result in an increase in noise, paragraph 3.39 expressly required that HAL should "review" its compensation schemes, "to ensure that they offer appropriate compensation to those potentially affected". While Mr Rhodes in XX suggested that the Noise Action Plan might constitute such a review, it did not conduct any review with reference to the Cranford proposals, and as such would not fulfil that requirement. Mr Rhodes did not rely on a consultation carried out in 2011 (his appendix 10) as constituting such a review. The basis of that consultation and responses to it are considered later in the context of the mitigation proposed by HAL.

The PPG[209]

239. As Mr Thornely-Taylor accepted (XX), the PPG provides the most recent and up to date national guidance dealing with the mitigation of adverse noise impacts. It is

[207] See page 78 and footnote 42 of Mr Fiumicelli's proof of evidence.
[208] CD01/31 – see pp66-67
[209] INQ8

consistent with the NPPF and the NPSE, although it is a development of the latter. It provides more detail than the NPSE and even introduces a new category of noise, the "UAEL" (unacceptable SOAEL).

240. The PPG is clearly intended to assist in policy application (rather than to change policy). Mr Thornely-Taylor dealt with the PPG very briefly in written evidence. saying: "the guidance explains in paragraph 009 that the management of noise associated with aircraft and airports is considered specifically by the Aviation Policy Framework". However, the part of PPG section ID30-009 which makes reference to the APF does not use the word "specifically". Nor does it expressly or impliedly have the effect that other parts of the PPG (or NPSE, or NPPF for that matter) are irrelevant, disapplied or made less important. It does not mean that only the APF is relevant to the assessment of noise. Notwithstanding what he had said in his written evidence, in XX Mr Thornely-Taylor readily accepted that the guidance is of general application.

241. Section ID30-003 advises decision makers that they should consider whether or not a significant adverse effect is occurring or likely to occur and whether or not an adverse effect is occurring or likely to occur. The guidance makes clear that this "would include identifying whether the overall effect of the noise exposure... is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation". It adds that because noise is a complex issue, "it may be appropriate to seek experienced specialist assistance when applying this policy". With this guidance in mind, it is worth setting out parties' positions in relation to the identification of LOAEL and SOAEL.

242. The Authorities' noise expert Mr Fiumicelli advised that 53/54dB LAeq, 16 hours (or, using other relevant metrics - 55 Lden, 57dB LAeq, 8h or 40dB Lnight) should be regarded as the LOAEL for aircraft noise.[210] This is dealt with more fully below. It suffices to note here that his approach accords completely with the guidance in the PPG, which he has taken fully into account. The table within ID30-005 presents a noise exposure hierarchy. The "example of outcomes" within the table has been referred to expressly and is adopted in Mr Fiumicelli's work.[211] Section ID: 30-008 is also relevant here in so far as it says that mitigation of "adverse effects" will depend on the circumstances and that insulation is one of four broad types of mitigation.

243. HAL has neglected to provide a value for LOAEL, although decision makers are clearly expected to make a conclusion about it. HAL's explanation (provided in its Statement of Uncommon Ground on Noise) is that, "in the specific case of Heathrow, it is unnecessary to seek to assign a numerical value to LOAEL". The rationale for HAL's position is not clear. It may be impliedly suggested that the scheme brings the benefits of alternation and it is for that reason unnecessary to provide the information. Alternation is considered further below, but here we simply say that it is no answer to the Inspector's question about where the parties set LOAEL to submit, in effect, that it is not necessary to answer the question.

244. Not only has HAL not identified its own value for LOAEL, but Mr Fiumicelli's view as to the LOAEL was not the subject of criticism by Mr Thornely-Taylor. In the light of

[210] Mr Fiumicelli's PoE paras 5.5.26-5.5.32 and table 5.1
[211] Ibid pp29-31 and 55-56

Mr Fiumicelli's carefully considered view on LOAEL and HAL's failure to provide any view as to LOAEL, it is submitted that the Secretaries of State should conclude that the LOAEL for aircraft noise is 53/54dB LAeq, 16 hours (or its equivalent if other metrics are considered[212]). Noise impacts at that level require to be minimised and mitigated.

245. The parties do not differ about the SOAEL for aircraft noise: it is 63dB LAeq, 16 hours (or its equivalent if other metrics are considered[213]).

246. The "action" the PPG advises should be taken in respect of LOAEL effects is to "mitigate and reduce to a minimum". For SOAEL, it says, "avoid".

247. Government policy and guidance is that observed adverse effects must be mitigated and reduced to a minimum. Significant adverse effects must be avoided. At the top end, adverse effects must be prevented.

Thames Tideway[214]

248. HAL's Statement of Case asserted that the Thames Tideway decision "makes clear that SOAELs are avoided by the provision of noise insulation at established trigger levels" as though it were authority for a proposition of general application.[215] Mr Rhodes' rebuttal proof[216] appeared to suggest the same thing, although in opaque terms, and in his oral evidence in chief persisted for some while with that argument. However, that decision was made in relation to a specific application, on particular facts. While in that case, the first and second aims of the applicable national policy statement were met by the mitigation measures offered, it does not follow that in all cases, or in this case in particular, offering insulation at SOAEL only will be acceptable.

249. Mr Thornely-Taylor said (XX) that he had understood the Thames Tideway decision to have made clear that "avoid" in the context of impacts at SOAEL could be achieved by the provision of noise insulation. Nevertheless, he quite properly conceded (XX) that it was a matter for the Secretaries of State in the particular circumstances of this case to decide on what ought to be required to address noise impacts. He acknowledged quite clearly that there was nothing in the case that said that insulation should not be provided as mitigation below SOAEL. For his part, Mr Rhodes also conceded, but only eventually in cross-examination, that there is nothing in the Thames Tideway case which establishes any proposition that as a matter of general principle noise insulation is not required below SOAEL or 63dB LAeq, 16 h.

250. It is worth considering the facts in that case, which are completely different to the situation here. The application was for a development consent order for a waste water storage and transfer project in London.[217] The project description indicates that there were two principal elements to the project: tunnels and work sites.[218]

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[212] See Mr Fiumicell's PoE p56 table 5.1
[213] Ibid
[214] CD01/34 and 01/35
[215] Statement of Case para 4.12
[216] Paras 2.17-2.18 of Mr Rhodes' RPoE
[217] Examining Authority ("ExA") report p6 para 1.1
[218] ExA report p28 para 2.7

The impacts of noise and disturbance would mainly occur for a temporary period, during the construction phase of the project (six years).[219] The applicant proposed mitigation, which the Examining Authority (ExA) considered.[220]

251. The policy/guidance context for the case included the National Policy Statement for Waste Water ("the NPS"),[221] the NPSE[222] and the PPG.[223]

252. The NPS indicated that, "in certain situations, and only when all other forms of noise mitigation have been exhausted, the applicant may consider it appropriate to provide noise mitigation through improved sound insulation to dwellings...".[224] That policy context is markedly different to that which applies here. In the case of the appeal proposal, there is no requirement to exhaust all other opportunities for mitigation before considering noise insulation. On the contrary, the mitigation suggested within the APF is, as a minimum, financial assistance towards acoustic insulation to affected residential properties (paragraph 3.39).

253. At paragraphs 12.29 and 12.34 of the ExA report, it is acknowledged that policy and guidance indicate that it is not possible to give a single objective noise-based measure that defines a SOAEL that is applicable to all sources of noise for all situations.

254. The applicant's case was set out at 12.48 of the ExA report. It was said that SOAELs were aligned with the trigger values for noise mitigation. Those values appear to have been set having regard to the British Standard which deals with construction noise (BS5228:2009).[225] It was said that, "when on-site mitigation is exhausted, the provision of noise insulation avoids any residual significant observed adverse effects, and therefore the first aim of NPS noise policy is met". The second aim (impacts between LOAEL and SOAEL) was met, it was said, by "maximising on site mitigation".

255. The ExA's conclusions can be seen at pp231-233 and pp235-236. It is clear from paragraphs 12.329-12.331 and 12.348 that:

(i) The ExA concluded that there was a particular order which had to be applied.

(ii) The order was: avoid first, then mitigate that which cannot be avoided, then finally insulate.

(iii) Significant effects were going to be caused by the scheme and could not be avoided (by design etc). It was found for that reason that the first aim was not met.

(iv) The second aim was met, but there were remaining concerns (see 12.337, 12.340- 12.341 and 12.343).

[219] Ibid p163 para 12.2 and 12.5
[220] Ibid pp166-167 para 12.14 and 12.15
[221] Ibid p167
[222] Ibid p169
[223] Ibid p170
[224] Ibid p168 para 12.24
[225] ExA report p176 para 12.55

256. The Secretary of State did not agree with the ExA's approach to the NPS aims. They said that the three aims should be considered only after the full impact of the proposed development, including any on-site and off-site mitigation, has been taken into account (paragraphs 69-70 of the decision letter). They concluded that the first aim, ie that relating to SOAEL, could be met by off-site mitigation proposals (paragraph 71). There is a summary of conclusions at paragraph 74. It can be seen that the Secretary of State reached a judgment that "the residual adverse impacts will not be significant" (paragraph 75).

257. In that case, the Secretary of State concluded that it was wrong to apply NPSE in a particular order, so that off-site insulation could not meet the first aim. It was accepted that off-site insulation could meet SOAEL effects on specific facts ie where impacts were from construction and the principal effects were temporary rather than permanent (for six years).

258. It can be seen therefore that no general principle can be derived from the case along the lines claimed in HAL's statement of case, or otherwise. There is no general proposition to the effect that insulation is in any case limited to SOAEL. There is nothing in the case which establishes a principle that noise effects below SOAEL need not be mitigated or cannot be mitigated by insulation measures. Such a conclusion would of course be a bizarre one. It would have no logic or common sense to it, and would cut across the principle that each case must be determined on its own facts. It would also cut across the PPG itself, which clearly contemplates[226] the provision of insulation at levels above LOAEL and below SOAEL, as recognised in Mr Fiumicelli's approach to mitigation.[227]

259. The LOAEL for aircraft noise should be taken to be 53/54dB LAeq, 16 hours (or its equivalent if other metrics are considered[228]). Noise impacts at that level require to be mitigated and reduced to a minimum.

260. The parties do not differ about the SOAEL for aircraft noise: it is 63dB LAeq, 16 hours (or its equivalent if other metrics are considered[229]). Noise impacts at that level require to be avoided.

261. Before turning to the way in which the noise effects of the scheme should be assessed and then mitigated, the community around Heathrow and its likely sensitivity to aircraft noise must be considered.

Community reaction to noise

APF's recognition of the population's increased sensitivity to noise

262. The APF indicates that at the time of its publication (March 2013) the Government accepted that there was some evidence that people's sensitivity to aircraft noise appeared to have increased in recent years.[230] It notes that the available evidence underpinning the decision, which deals with the precise change in relationship

[226] See in particular ID30-008
[227] See in particular pp26-30 and 55-56.
[228] See Mr Fiumicell's PoE p56 table 5.1
[229] Ibid
[230] APF CD01/17 p57 para 3.14

between annoyance and exposure to aircraft noise has left "large uncertainties" about that relationship.

263. Those acknowledgments inform the highly qualified basis on which the 57dB LAeq 16 hour contour was retained:

> *"We will continue to treat the 57dB LAeq 16 hour contour as the average level of daytime noise marking the approximate onset of community annoyance. However this does not mean that all people within this contour will experience significant adverse effects from aircraft noise. Nor does it mean that no-one outside of this contour will consider themselves annoyed by aircraft noise."*[231]

264. The 57dB LAeq 16 hour contour is used as a marker for the average level of daytime noise for the approximate onset of significant community annoyance. This indicates that for some people the level for annoyance will be less and for some people, more. The word "approximate" indicates that there is no precision about the level. The Government expressly notes that there will be people below this level who will be annoyed or highly annoyed. Policy does not treat the 57dB LAeq 16 hour contour as a fixed single figure point for assessing annoyance. It expressly says the opposite. As Mr Thornely-Taylor accepted (XX) that there will be people annoyed by aircraft noise outside that contour. It is therefore relevant and necessary to consider the effects of the proposal on people experiencing noise below that level.

265. The fact that it was accepted that there was some evidence of increased sensitivity to noise explains the Government's commitment to keep its policy under review "in the light of any new emerging evidence".[232]

266. HAL's noise expert Mr Thornely-Taylor made no reference to that important commitment in relation to the retention of the 57dB LAeq 16 hour contour in his main proof of evidence, saying only that, "the APF reaffirms the use of the LAeq 16 hr metric and the value of 57dB as 'the approximate onset of significant community annoyance'"[233], nor was it mentioned in Mr Rhodes' main evidence.[234] A commitment to keep policy under review in light of any new emerging evidence is a clear signal to the decision maker that emerging evidence may well make a significant difference to the approach to be taken.

267. Mr Thornely-Taylor did address the point in his rebuttal evidence but only to comment that there had been no "change in policy" since the publication of the APF.[235] Mr Rhodes added, "unless and until that policy is reviewed it remains definitive Government policy" and "this inquiry is not the place to attempt to conduct a review of Government policy".[236]

268. The decision maker is however obliged to take account of all material considerations in this appeal decision. New relevant evidence must be taken into account, particularly where, as here, the APF acknowledges an imperfect evidence

[231] APF CD01/17 p58 para 3.17
[232] APF CD01/17 p58 para 3.18
[233] Mr Thornely-Taylor PoE p6 para 2.4.6
[234] See his PoE pp18-19
[235] Mr Thornely-Taylor RPoE p6 para 3.1.10 and Mr Rhodes RPoE
[236] Mr Rhodes RPoE p14 para 3.20 and 3.21

base for the decision to retain the use of the 57dB LAeq 16 hour contour as marking the approximate onset of significant community annoyance and expressly anticipates that evidence may emerge which will require a change of approach.

Evidence dealing with the approximate onset of significant community annoyance

269. The 1985 Air Noise Index Study ("ANIS") is the source of the use of the 57dB LAeq 16 hour noise contour as representative of a noise level at which there is a marked community response to aircraft noise.[237] ANIS has been the basis of aviation noise policy for several decades.[238]

270. This inquiry has not considered ANIS in detail given that when the Government commissioned the Attitudes to Noise from Aviation Sources in England study ("ANASE") it did so because it recognised that further, more up to date research was necessary, but it can be noted that the T5 Inspector found that the weight attached by the Department to the 57dB LAeq was greater than the original research would support.[239] The then Secretary of State said this:

> *"The Secretary of State has already announced his intention, independently of Terminal 5, to conduct a new study of aircraft noise and the perceptions of people subject to it... On 8 May 2001 in response to a Parliamentary Question asking the Secretary of State what plans he had to carry out a new study to update the Aircraft Noise Index Study of 1985, Mr Bob Ainsworth... said, 'My Department is to carry out a major study to reassess attitudes to aircraft noise. This new study underlines the Government's commitment to underpin our policy on aircraft noise by substantial research that commands the widest possible confidence.' It is envisaged that the results of the study will help to show whether the Leq index does in fact have the weaknesses suggested by the Inspector."*[240]

271. The "new study" there referred to was the ANASE work, commissioned in 2002.[241] While (as Mr Fiumicelli reports) the ANASE study concluded that average annoyance was greater than in the previous ANIS work, it was not used as a basis for changing aviation policy.[242]

272. In the draft APF, the Government said that it acknowledged the ANASE research which suggested that the balance of probability is that people are now relatively more sensitive to aircraft noise than in the past. It said that there was at that time, "insufficient evidence to indicate a clear threshold level at which it can be said with any certainty that there is an 'onset of significant community annoyance'".[243]

273. In the summary of responses[244] this explanation was given:

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[237] Mr Thornely-Taylor PoE p25 para 4.1.8
[238] Mr Fiumicelli PoE p48 para 5.5.1
[239] T5 Inspector's report CD04/06(2) Chapter 21 p354 para 21.3.32
[240] T5 Secretaries of State's decision letter CD04/06(3) paragraph 60 – date of the decision letter 20 November 2001
[241] See Mr Fiumicelli's PoE p48 para 5.5.1
[242] Mr Fiumicelli's PoE p48-49
[243] Draft APF CD01/31 p53 para 4.26
[244] Draft APF consultation: summary of responses CD01/32

"24. The Government recognises that the lack of conclusive evidence on community responses to aircraft noise makes this a difficult area on which to make policy. It is clear that there is no consensus on the best way to measure the noise impacts of aviation. The Aviation Policy Framework confirms that we will maintain the existing policy on the onset of significant community annoyance and on mapping noise exposure at the designated airports. This will have the benefit of allowing noise exposure levels to be compared with historic trends at these airports...

25. Many responses called for the Government to carry out further research on the question of annoyance. The Airports Commission has recognised that there is no firm consensus on the way to measure the noise impacts of aviation and has stated that this is an issue on which it will carry out further detailed work and public engagement. We will keep our policy under review in the light of any new emerging evidence."

274. It appears that the Government said what it did in the APF about retaining 57dB LAeq 16 hours as the average level of daytime noise marking the approximate onset of significant community annoyance because there was a lack of "conclusive evidence" on community responses to aircraft noise and, as Mr Fiumicelli maintained in oral evidence (XX), because there was a lack of consensus on the best way to measure the noise impacts.

275. The reason the ANASE study was not regarded as providing conclusive evidence was because of methodological criticisms made within a report published at the same time as the ANASE study by an appointed "non stated preference review group".[245] The ANASE study authors have responded to those criticisms in a report published post the APF, in September 2013.[246]

276. That report suggests that the findings of the ANASE study are "more robust than the previous ANIS study", are "more up-to-date", are "consistent with non survey-based sources of reported community annoyance" and are "consistent with the current known situation across Europe".[247] The authors suggest that the consequence of reliance on ANIS is that, "policy makers continue to presume that the 'onset of significant community annoyance' is 57 LAeq and that communities below this noise exposure threshold are relatively unaffected by aircraft noise – despite the fact that many such residents say they are".

277. Mr Fiumicelli's written evidence says that the report, "robustly defends the ANASE study methods, data and conclusions and heavily criticises policy makers' reliance on what the authors regard as out of date data collected in biased and prejudiced ways; and... undue focus on... 57LAeq, T...". He regards that work (and the ANASE study itself, even if only the restricted data is used[248]) as support for the view that sensitivity to aviation noise has increased.[249] Mr Fiumicelli suggests that, "the

[245] See CD02/14 Understanding UK Community Annoyance with Aircraft Noise ANASE Update Study p1.4 para 1.4.3 and pp2.2-2.2
[246] Ibid sections 2.2-2.3
[247] Ibid summary at (i)
[248] See his p51 para 5.5.16 and figure 5.2
[249] Mr Fiumicelli PoE p50-51

probable modern equivalent to an approximate threshold for the onset of significant community annoyance is around 53 to 54dB LAeq,16, not 57dB".

278. It was notable that Mr Thornely-Taylor made no criticism of this part of Mr Fiumicelli's evidence, nor was Mr Fiumicelli asked a question about any of that written evidence. Instead, he was asked in cross-examination whether in the APF the Government had acknowledged that people are relatively more sensitive to noise (he accepted it had); and whether therefore the evidence he pointed to had already been acknowledged. Mr Fiumicelli's response was that at the time of the APF the Government seemed to have been concerned that there was no consensus on the issue, but he was of the view that there is sufficient evidence available now to conclude that significant community annoyance occurs below 57dB.

279. The theory that sensitivities have increased is supported in the "Trends in aircraft noise annoyance: the role of study and sample characteristics" study 2010,[250] which Mr Thornely-Taylor commended to the Inspector and suggested (XX) should be given "significant weight". This is important given the study's conclusion that, "a significant increase over the years was observed in expected annoyance at a given level of aircraft noise exposure".[251] It considered various reasons why that might be the case, concluding that "despite the uncertainties with regard to its explanation, it is clear from the observed trend that the applicability of the current exposure-annoyance relationship for aircraft noise... should be questioned."[252]

280. Most recently, in December 2014, the National Noise Attitude Survey report ("NNAS") was published by Defra.[253] It was the second large scale survey of its kind, providing an update to one carried out in 2000,[254] using a methodology which aimed to maintain comparability with the 2000 survey.[255] Its general purpose was to update information on attitudes to noise. Its second objective was to see whether there had been any substantive changes in noise attitudes since 2000.[256]

281. As Mr Thornely-Taylor accepted (XX), the NNAS was not an input to the APF.[257] He also agreed that it is a Government sponsored public document (XX). It is of course relevant to the APF's reference to evidence of increasing sensitivity to noise. It is also the sort of evidence the APF anticipated might emerge and require a change in approach, notwithstanding Mr Thornely-Taylor's insistence (in XX) that only information which seeks to correlate dose and response (such as INQ14) would fall into that category.

282. The NNAS is plainly not a "specific aircraft noise social survey comparable to either ANASE or ANIS."[258] However, its value in the fact that it provides longitudinal survey data ie using the same methodology and questions as were used in the original ANIS survey, whereas the ANIS and ANASE surveys were not directly

[250] INQ/14
[251] INQ/14 VII Conclusion
[252] Ibid
[253] CD/02/13
[254] Ibid p8 2nd para
[255] Ibid p13 2nd bp
[256] P8 2 bullet points
[257] Cf Mr Thornely-Taylor's RPoE p6 para 3.1.11
[258] Mr Thornely-Taylor's RPoE p6 para 3.1.13

comparable.[259] The fact that NNAS shows that there has been a strongly significant increase in people's annoyance response to aircraft noise (despite no material increase in the proportion of people hearing noise[260]) indicates clearly that there will be greater numbers of people more annoyed by aircraft noise at lower levels now, than there would have been 30 years ago when the 57dB LAeq,16 hour level was set.

283. It is unlikely that the increase in annoyance response to aircraft noise is the result of increasing noise levels. While the NNAS work does not provide the means to assess annoyance response to particular aircraft noise levels, as far as Heathrow is concerned, Mr Thornely-Taylor's written evidence explained in some detail that aircraft noise from Heathrow has decreased rather than increased over time.[261] Moreover, Heathrow's Noise Action Plan 2013-2018 says that, "over the past 30 years aircraft have got progressively quieter while the number of movements has increased significantly. This is illustrated by the fact that between 1974 and 2006 the number of people living within the 57dBA LAeq, 16 hour summer day noise contour... has fallen from two million to around 239,600 during which time runway movements have increased annually from around 265,000 to 475,000."[262]

284. In oral evidence (EiC) Mr Thornley-Taylor pointed to the increased number of "higher and intermediate managerial/administrative/professional social groups when compared to the population as a whole. Those in social groups A/B were found to be more likely to be annoyed by noise from 'aircraft, airports and airfields' compared to the overall levels of annoyance from this source".[263] He also drew attention to what he considered was an anomalous result in relation to road traffic noise, but that point did not seem to lead to any firm conclusion and in light of the following important concessions made in cross examination, Mr Thornely- Taylor's reservations about the NNAS can safely be disregarded:

> (i) None of the points he had raised had led the authors of the NNAS to alter or reject their conclusions;
>
> (ii) The results of the survey had led the authors of the NNAS to the conclusion that the population appears to be less tolerant of noise than in 1998; and
>
> (iii) They reach that conclusion taking into account expressly the cautionary notes he had drawn attention to.

285. In re-examination, Mr Thornely-Taylor was asked to what extent the conclusion in the APF that there is "some evidence" of increased sensitivity to aircraft noise was

[259] As Mr Fiumicelli explained in his oral evidence
[260] See p6 of CD02/13 – which shows that near enough equal numbers of people reported "hearing" noise from aircraft, airports and airfields (71% in 2000, 72% in 2012), but there was a more than 50% increase in the number of people "bothered, annoyed or disturbed to some extent" by that noise (20% in 2000, 31% in 2012) and a 100% increase in the number of people "very or extremely bothered, annoyed or disturbed to some extent" by that noise (2% in 2000 and 4% in 2012). See also the executive summary at p3 penultimate para and last para.
[261] See his PoE p25 & on section 4 "the Changing Noise Climate at the Airport over time".
[262] CD02/06 p4 1st para
[263] Mr Thornely-Taylor's point in EiC was made in relation to the "respondent characteristics" of the survey – see eg CD02/14 summary p15-16

changed by NNAS. Mr Thornely-Taylor obediently said that there was no change - but that cannot be right. A recent, Government sponsored major survey which concludes that there are statistically significant increased annoyance responses to aircraft at the very least confirms that what has been suspected for some time is in fact the case. People's sensitivity to aircraft noise has increased significantly.

286. There is ample support for Mr Fiumicelli's view that there is substantial evidence of a shift in tolerance or sensitivity to aircraft noise since the ANIS study was carried out in the early 1980s.[264]

A more appropriate reflection of modern community reaction to aircraft noise?

287. Mr Fiumicell's uncontested consideration of the various studies carried out in relation to community reactions to aircraft noise, and in particular his consideration of the recent NNAS, is important in the context of the APF's heavily qualified position and its express contemplation of emerging evidence that might influence the level chosen to reflect community annoyance.[265] His analysis led him to conclude 53 or 54dB LAeq, 16 hours (equivalent to 55Lden[266]), as a conservative estimate, would be "a more appropriate reflection of the modern community reaction to aircraft noise".[267]

288. Mr Thornley-Taylor's position seems to be that while he accepts that the evidence of increased sensitivity means that there is "a question"[268] to be answered, he did not know what the answer should be. He also said in XX that "Mr Fiumicelli has decided he does know what to do [about increased sensitivity to aircraft noise], that may or may not be right."[269]

289. However, HAL's position seems to have changed in this regard as at the ES scoping stage of the planning application (Scoping Report June 2011), HAL decided that it was appropriate to use a 55Lden/53dB LAeq, 16 hour level as the threshold for significant community annoyance effects. That was to reflect evidence of increased sensitivity to aircraft noise. The decision was taken despite the fact that Government policy retained 57dB LAeq, 16hr as the appropriate threshold. By the time the ES was drafted, without any explanation or justification, HAL dropped any reference to that lower threshold and instead used 57dB LAeq, 16hr.

290. The Scoping Report records that at the time it was written, Government policy was that air noise levels of 57dB LAeq, 16hr and above mark the onset of significant community annoyance.[270] The draft Aviation Policy Framework ("draft APF") was not published until the following July (2012). In the section of the Scoping Report dealing with "community annoyance"[271] it discussed the ANASE work and the EEA Technical Report 11/2010 "Good practice guide on noise exposure and potential health effects" (which is considered further later in the context of the submitted Health and Equality Impact Assessment). The Scoping Report concluded as follows:

[264] Mr Fiumicelli PoE p55 para 5.5.25
[265] See in particular section 5.5 of Mr Fiumicelli's PoE
[266] See Mr Fiumicell's table 5.1 within his PoE p56
[267] Mr Fiumicell's PoE p55 para 5.5.26
[268] Mr Thornely-Taylor XX
[269] Mr Thornely-Taylor XX
[270] ES Appendix D Scoping report p58 para 248
[271] Ibid p78 & on

> *"The UK Government has accepted that it is highly probable that annoyance with a particular level of aircraft noise is higher than found in ANIS. In the light of the probability that there has been an increase in annoyance, the extension of the threshold for significant community annoyance effects from 57dB LAeq, 16hr down to 55Lden (≈53dB LAeq, 16hr) addresses this issue. This provides consistency with the metric used in developing the Heathrow Noise Action Plan and proposed mitigation and compensation scheme consultation..."*[272]

291. Mr Thornely-Taylor was quite wrong to suggest (XX) that the Scoping Report was merely opting to use 55 Lden/53 LAeq, 16hr for "mapping". As is entirely apparent from the quotation above (and the letters which followed[273]), what HAL had decided to do was use a lower threshold as the marker for the onset of significant community annoyance than that found in then extant Government policy.

292. While Mr Thornely-Taylor's written evidence did not deal directly with the lower threshold HAL had decided to use during the scoping stage, it said as follows: "the assessment scoping was undertaken over a period where aviation policy was being developed and consulted upon. Throughout 2012 the Aviation Policy Framework was in draft form and subject to consultation... much of the ES scoping was undertaken with no firm understanding of how Government policy on aircraft noise would be finalised."[274] The Authorities suggest that given the chronology the real reason HAL had been prepared to lower the threshold when it did (June 2011) had nothing to do with the publication of the draft APF a year later, but instead reflected its response to evidence which indicated that sensitivities to aircraft noise had increased.

293. The reference within the Scoping Report to "the UK Government" may well have been a reference to what was said by the Chief Economist in relation to ANASE:

> *"The evidence in ANASE indicates, in my view, that it is highly probable that concern or annoyance with a particular level of aircraft noise is higher than found in the ANIS study in the early 1980s. This finding is in line with emerging findings from the European Commission's HYENA Study."*[275]

294. In the Authorities' submission, HAL's decision to use a lower threshold than found in policy was not a challenge to that policy, but simply a recognition of new evidence since the original Government policy was formulated. HAL's response to that new evidence was accepted in the Council's Scoping Opinion[276] and HAL had not changed its position even by December 2012, which was long after the draft APF had been published.[277] It will be remembered that in the draft APF the Government had said that, "for the present time we are minded to retain the 57 dB LAeq,16h contour as

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[272] Ibid p80 para 348
[273] See eg the letter from Stephen Allen to Mr Thynne 4 December 2012 – p39 – light text by Mr Allen: "For example for residential receptors and the assessment of air noise, effects will be considered 'negative
significant' where noise increases by ≥54LAeq, 16 hr or ≥55Lden."
[274] See his PoE p34 paras 6.2.1-6.2.2
[275] Quoted in Mr Fiumicell's PoE p49 para 5.5.8
[276] 22 August 2011 see Mr Thornely-Taylor's PoE App2 p19 para 13.4
[277] Letter 4 December 2012 p39 "significance criteria (noise)"

the average level of daytime aircraft noise marking the approximate onset of significant community annoyance. We would welcome views on this."[278]

295. The 55Lden/53 or 54 dB LAeq, 16 hour noise level is a more appropriate reflection of modern community reaction to aircraft noise than 55dB LAeq, 16 hour. The following nine reasons demonstrate why that is so.

296. First, that is the level that results from the ANASE study, if the information from that work about which there was criticism is excluded.[279]

297. Secondly, the use of 55Lden is consistent with the mapping requirements arising from EU Directive 2002/49/EC, see Part 2 of the Environmental Noise Regulations 2006.[280]

298. Thirdly, 55Lden is the preferred measure used by the European Union (Mr Thornely-Taylor XX).

299. Fourthly, the Government acknowledged within the APF that the use of 57dB LAeq, 16 hour marker does not mean that no-one outside that contour will consider themselves annoyed by aircraft noise.[281] If there is a rigid cut-off at that level, then the effect on those people will be left out of account.

300. Fifthly, it seems generally accepted that it will be necessary to take into account more information than can be ascertained by reference only to the use of 57 dBA LAeq, 16 hour contour.

301. In CAP1165, it is noted that, "the standard European measure is the 55 dBA Lden noise contour.... Throughout this document we take the 57 dBA LAeq, 16 hour contour, as the UK's current accepted representation of the onset of significant annoyance, to allow comparison on a like-for-like basis. However... there are a variety of competing and complementary metrics available to represent aviation noise and use of 57dBA LAeq, 16 hour should not be interpreted as a belief that is the sole effective measurement."[282]

302. CAP 1165 went on to consider the ANIS work[283] and noted that within the 57dBA LAeq, 16 hour contour (in the early 1980s), 10% of people would describe themselves as "highly annoyed".

303. Sixthly, as has been explained, at the scoping stage of the planning application, HAL thought that reducing the threshold to 53/54 dB LAeq, 16 hours/55Lden was an appropriate response to evidence indicating that sensitivities to aircraft noise have increased.

304. Seventhly, in the Health and Equality Impact Assessment, the 55Lden level was judged to be relevant and important in order to understand the health and equality implications of the development and had been relied upon in that work (Mr Thornely-Taylor XX). Mr Thornely-Taylor confirmed in XX that 55Lden had wrongly

[278] CD01/31 p54 para 4.27
[279] See Mr Fiumicelli's PoE p51 para 5.5.16 and figure 5.2
[280] CD02/01
[281] CD01/17 p58 para 3.17
[282] CD02/13 p6 footnote 1
[283] Ibid p20

been transposed. In answer to the Inspector's question (during XX) he accepted that if 55 Lden were to be used, that would be the equivalent of assessing health effects at 53dB LAeq 16 hours.

305. Eighthly, Mr Thornely-Taylor even agreed (XX) that there is nothing between the Authorities and HAL in terms of the use of the 55 Lden contour and its value in this case. Indeed, the point was reached in cross-examination where Mr Thornely-Taylor appeared no longer to rely on 57dB LAeq 16hrs as the approximate onset of community annoyance. He said (XX) that the "secondary" assessment in the ES (ie that using Lden[284]) "allows for [the] position if there has been a shift in annoyance: the secondary assessment provides for that." When asked whether he was "expressing no preference between the two assessments", he said, "No. If I were the decision maker I would concentrate on the overall tables. [You] can do that for both contours..." He was asked twice whether it was "equally important to look at both contours". In the end, he said this, "I place more weight on the contour where the population enclosed is the greatest." When asked whether that meant more weight should be placed on the 55Lden contour than the 57dB LAeq, 16 hr contour, he said, "No, I said I couldn't answer that." In short, it was Mr Thornely-Taylor's evidence to the public inquiry that he could not advise the Inspector or the Secretaries of State which of the two available figures should be used for that purpose.

306. Finally, HAL's position outside this appeal is instructive:

> (i) Its Noise Action Plan uses the 55 Lden contour as well as 57dBA LAeq, 16 hour contour;[285] and
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> (ii) It has offered a new noise insulation scheme covering a zone based on the 55Lden noise contour (in the context of the third runway proposal)[286]

307. That offer must be on the basis that there a significant number of people below 57dB LAeq, 16 hours, down to at least 53/54 dB LAeq, 16 hours (the equivalent of 55Lden[287]) who are annoyed by aircraft noise and deserving of compensation. While the offer has been made in the context of seeking to secure support for a third runway, as Mr Thornely-Taylor had to agree (XX), the actual noise suffered by the community is no different whether it is noise arising from the introduction of alternation, or noise from a third runway. He appeared to imply that the appeal proposal did not offer the airport sufficient economic benefit so as to be able to pay for higher levels of mitigation, but there is no viability evidence before the inquiry; and HAL has never sought to rely on viability as a reason to justify inadequate mitigation. His apparent explanation was the more difficult to accept in the light of paragraph 3.28 of the APF and the need in this case for HAL to "make particular efforts" to mitigate noise.

308. For the reasons explained, 53/54dB LAeq, 16 hours, or 55 Lden, more appropriately reflect the modern community reaction to aircraft noise. That level should be used as the marker for significant community effects; and should, as Mr Fiumicelli

[284] CD01/02 p82 – secondary assessment significance criteria within table 6.10
[285] CD02/06 pp5 and 6
[286] CD02/11
[287] Mr Fiumicelli's PoE p56 table 5.1

advises, be regarded as the Lowest Observed Adverse Effect Level ("LOAEL") for aircraft noise.[288]

Assessment of scheme effects

309. The first RFR read as follows:

> *"The scheme would facilitate the altered aircraft movements/operations (including queuing) and the application fails to demonstrate that these would not result in significant adverse noise impacts on the health and well-being of residential populations, users of schools and community facilities. The scheme would also fail to provide adequate and sufficient mitigation measures to affected residents, schools and community facility users to offset the resultant negative noise and associated health and well-being impacts. As such the scheme is considered contrary to paragraph 123 of the National Planning Policy Framework, London Plan (July 2011) Policies 2.6, 3.2, 5.3, 6.6 and 7.15, Hillingdon Part 1 Local Plan Policies EM8 and T4, Hillingdon Local Plan Part 2 Saved UDP Policies (November 2012) Policies A1, A2, OE1, OE3, the Noise Policy Statement for England (March 2010) and paragraph 3.12 of the Aviation Policy Framework (March 2013)."*[289]

310. HAL could not be in any doubt that Hillingdon refused planning permission on the grounds that it was dissatisfied with the way in which HAL assessed the impacts of the scheme; and the fact that the mitigation proposed will not adequately address likely noise effects.

311. The RFR reflects the concerns expressed within the report to committee (based on internal advice and the view of consultees including the Hounslow and the Mayor of London).[290] Those concerns are shared by Hounslow BC and the GLA, as made clear in the evidence given to the inquiry by Mr Chivers and Mr Fothergill respectively.

Significance criteria within the ES for residential properties: the primary assessment

312. The noise effects of the scheme are assessed in the ES. Where a particular effect is judged insignificant for ES purposes, it seems then to be left out of account by HAL.[291] In this way, the ES adheres rigidly to the 57dB LAeq, 16 hour contour. For the reasons given above, the decision maker should not be prepared to accept an approach so out of kilter with the evidence now available about increased sensitivity to noise.

313. The ES compounds the fault requiring, in addition, a +3dB change before an effect is judged significant.[292] That means that when there is just short of a 3dB increase – but a household is within the 57dB contour, say, just short of 60dB, the effect on them is judged insignificant and dismissed. The 3dB change criterion is also applied

[288] Mr Fiumicelli's PoE p55 para 5.5.26
[289] See eg Mr Fiumicelli's PoE p8 para 2.3.2
[290] See for example the explanation of the "central differences between the conclusions drawn by the applicant and those of the Council" and the discussion following, at section 7.2.4 of the committee report CD01/03.
[291] CD01/02 see p82 table 6.10
[292] Ibid

to the night time noise threshold for significance (55dB Lnight). As Mr Fiumicelli notes, while in this instance the threshold is appropriate,[293] the addition of the change criterion is not supported by the WHO Night Noise Guidelines and is not required from an effect perspective.[294]

314. There is no justification in the APF for dismissing noise effects at less than 57dB – on the contrary, as noted above, it warns that people outside the contour may consider themselves annoyed by aircraft noise.[295] Mr Thornely-Taylor agreed (XX) that it would be wrong to treat the 57dB level as a "cut off"; and yet, that is precisely how the ES and his own assessment treat it. He acknowledged (XX) that it would be wrong to treat the 57dB level as a fixed single measure for assessing annoyance and that in the APF the Government was drawing attention to the fact that there are significant adverse effects below that contour. Mr Thornely-Taylor added that in his view that was why the ES included information down to the 53dB level, but that information forms no part of the "primary" assessment and no effect below 57dB is treated as significant.

315. There is no justification in the APF, or in any other policy or guidance for imposing a +3dB change criterion irrespective of the noise level.

316. The basis for HAL's approach seems not to have been entirely clear or consistent, as is explained below.

317. In the Scoping Report, the use of the 3dB change criterion was explained by reference to the way in which someone would perceive a change:

> *"A 3 dB change has been widely used in ESs as the point at which a change in the noise environment becomes significant as a change of this magnitude is most likely to alter a person's annoyance response."*[296]

318. The ES itself then adopted a more elaborate approach, associating the criterion with statistical certainty,[297] on which Mr Thornely-Taylor relied without comment in his PoE. He then said, "Indeed an increase of 3 dB resulting in aircraft noise exposure of 63 dB LAeq, 16hr or more under the APF triggers the requirement to provide noise insulation".[298] In rebuttal evidence, he was more forthcoming, explaining in some detail the rationale for the statistical certainty approach.[299]

319. However, Mr Thornely-Taylor was unable to point to any policy or guidance which supported the "statistical certainty" approach that he (and the ES) had adopted. Instead, he relied on INQ13[300], which does not seem to offer any direct support for the use of a 3dB change criterion on the basis of statistical certainty. It is not surprising that he did not rely on the APF. The APF's minimum noise insulation/compensation scheme requirements do not in themselves justify a

[293] Mr Fiumicelli's PoE p67 para 6.2.20
[294] See Mr Fiumicelli's PoE p57 para 5.6.3
[295] CD01/17 p58 para 3.17
[296] CD01/02 ES Appendix D p80 para 348
[297] CD01/02 ES pp73-4 para 6.7.5 - 6.7.8
[298] Mr Thornely-Taylor PoE p37 para 6.3.6
[299] Mr Thornely-Taylor RPoE pp6-7 section 3.2
[300] Extract from 'Good practice guide on noise exposure and potential health effects': European Environment Agency

change criterion of +3dB irrespective of the noise level. Paragraph 3.39 does not purport to provide guidance about significance, nor can it sensibly be construed as establishing any general principle.

320. Mr Fiumicelli's approach can be contrasted with that. He adopted a 3dB change criterion up to a guideline level of 63dB (which he said is SOAEL in this case[301]) and 1dB above that. His work is supported by the recent IEMA Guidelines and the PPG.[302]

321. The IEMA Guidelines (2014) suggest that the relationship between the noise change and the guideline level influences the extent of the impact.[303] What is relevant is the impact on people, not whether their responses are likely to be statistically significant. Mr Thornley-Taylor did not mention the IEMA Guidelines in his main proof of evidence, but he accepted their importance and relevance in XX.

322. The PPG advises that, "in cases where existing noise sensitive locations already experience high noise levels, a development that is expected to cause even a small impact in the overall noise level may result in a significant adverse effect occurring even though little to no change in behaviour would be likely to occur". That advice, it is submitted, runs counter to Mr Thornely-Taylor's statistical certainty approach, focusing as it does on the effect of small changes above a guideline level.

323. While the ES itself had seemingly recognised the importance of the guideline level in assessing the significance of change ("The actual overall level of noise can also influence the determination of significance since it may either exceed or comply with relevant guideline noise levels, irrespective of the amount of change in predicted noise levels"[304]) it did not then reflect it in the significance criteria chosen. As Mr Thornely-Taylor accepted in XX, the low, medium and high magnitude of change levels identified were all 57dB LAeq, 16 hours (see table 6.10 of the ES) and only a 3dB change was significant, however high the aircraft noise level.

324. HAL's approach can fairly be characterised as one of rigid adherence to an out of date threshold, combined with reliance on a fixed change criterion for reasons which derive no support from relevant guidance. The practical effect of the choices made in the ES are to dismiss part of the scheme's impact on the community around Heathrow, even though it is clear that some of those affected will be highly annoyed as a result of the noise increase.

The secondary assessment

325. While HAL included a secondary assessment using 55Lden with a +3dB change criterion,[305] it seems to make no difference to the "Assessment of air noise effects" section of the ES (section 6.8), which does not rely on the secondary assessment, but indicates that, "the secondary assessment of community annoyance using the Lden is presented in Appendix G. As discussed in section 6.7 this approach has been taken to reflect the Government's decision to reaffirm the use of the LAeq, 16h as the principle [sic] of community annoyance".

[301] See Mr Fiumicelli's PoE p56 table 5.1
[302] See Mr Fiumicelli's PoE p59 figure 5.3 and paras 5.6.6 to 5.6.9
[303] See Mr Fiumicelli's PoE p59
[304] CD01/02 ES p81 para 6.7.60
[305] CD1/02 ES p82 table 6.10

326. The noise assessment in the ES is based entirely on the 57dB Leq, 16 hour +3dB measure of significance: see tables 6.11 assessment of residential population exposure, table 6.12 noise magnitude and significance of change. It is on the basis of the significance criteria chosen by HAL that the ES concludes that, "table 6.12 shows that there would be more residential dwellings and population experiencing significant (≥3dB) adverse effects than significant beneficial effects. In total there are 1,700 residential dwellings experiencing significant (≥3dB) adverse effects whereas no residential dwellings would experience significant beneficial effects."[306] As Mr Thornley-Taylor said about the additional information within the secondary assessment and within Appendix G (in XX), "it hasn't been used. It has been provided", but as already indicated, in cross examination, he was unable to advise the Inspector or Secretaries of State which assessment ought to be preferred.

Significance criteria within the ES for schools and community buildings

327. HAL's position in relation to mitigation for schools changed between the submission of the ES and the following year, dropping a 3dB change criterion previously included. It changed again in the run up to and during the inquiry (as is explained further below). Those changes (reflecting HAL's admission that it had misread or misunderstood the APF) should not be allowed to distract from what is a matter of real concern for the community around Heathrow and for the Authorities: unmitigated impacts on local primary schools.

328. Numerous studies have linked environmental noise exposure and negative effects on children's learning outcomes and cognitive performance.[307] The Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health ("RANCH")[308] study was relied upon in the ES[309] and in Mr Fiumicelli's evidence.[310] One of its important conclusions is that high levels of chronic aircraft noise exposure impair children's reading and their ability to perform complex cognitive tasks.

329. The significance criteria used for schools within the ES is outdoor ≥70dB LAmax + ≥3dB change where outdoor LAeq, t ≥50dB (t =30 mins).[311] The Authorities accept that those criteria, which are derived from BB93, are appropriate.

330. Appendix G of the ES relies on the guidance in BB93.[312] BB93 specifies upper limits for indoor ambient noise levels in terms of LAeq, 30 mins during normal teaching hours.[313] It refers to the refurbishment standards as being, "minimum standards and there is often considerable benefit in improving on them."[314] It also advises that, "in order to protect students from regular discrete noise events, eg aircraft or trains, indoor ambient noise levels should not exceed 60dB LA1, 30 mins.[315] BB93's objective is to provide suitable indoor ambient noise levels for:

[306] CD01/02 ES p85 para 6.8.13
[307] See Mr Fiumicelli's PoE p11 para 3.3.7
[308] CD02/15
[309] CD01/02 ES Appendix G pG12
[310] Mr Fiumicelli's PoE p11 para 3.3.8
[311] CD01/02 ES p82 table 6.10
[312] See CD01/02 ES Appendix G pG12. NB the ES refers to the withdrawn version of BB93. That has now been updated and reissued, see CD02/07
[313] See CD02/07 p18 para 1.1.2 and table 1
[314] See CD02/07 p17
[315] See CD02/07 p21 para above 1.1.3

(a) Clear communication of speech between teacher and student

(b) Clear communication between students

(c) Learning and study activities

331. Bearing in mind those objectives, it is clear that Mr Fiumicelli is right to advise that any mitigation scheme should seek to mitigate or compensate for the harm caused by the development to local schools; and the aim should be to achieve BB93 standards or at least minimise the breach of those standards.[316]

332. HAL's case on the relevance of BB93 has not been clear. The ES based its significance criteria on its standards.[317] Mr Thornely-Taylor's rebuttal evidence argued that, "the ES has simply had regard to BB93 in determining significance criteria,"[318] but in doing so, the ES is clearly acknowledging the relevance to the decision maker of the effect of the development on the internal teaching environment within affected schools; and the relevance of its standards in judging an acceptable environment. BB93 applies to the construction and refurbishment of schools, and offers national guidance on internal noise levels at which satisfactory teaching environments will exist. It is therefore relevant and very important. It can also be noted that the values set down are upper limits and to be regarded as minimum standards.[319]

333. The acoustic consultancy work carried out in relation to Cranford Junior School (2006), Grove Road (2005) and Hounslow Heath Junior (2010)[320] assessed internal noise levels (ie within unoccupied classrooms) and used a 5 minute LAeq. The early reports compare the internal noise environment post insulation with the then extant BB93 (see eg the Cranford Report at page 9). Again, the proper inference is that in fact, HAL accepts and acknowledges that BB93's standards are relevant and should be applied.

334. It is on the basis of BB93 and 'Acoustics performance standards in priority schools building programme' which contains similar standards, that it is concluded within Appendix G that "internal noise levels of up to 40 dB LAeq, 30 mins are not significant". Again, as indicated above, the Authorities consider that the significance criteria within the ES are appropriate for schools, given that they derive from BB93.

335. There is no dispute about the approach to significance in relation to community buildings.[321]

[316] See his PoE p73 and 74
[317] CD01/02 table 6.7, 6.7.2 and appendix G at pG12
[318] RPoE p11 para 4.2.11
[319] See pp57-59 and Table 1
[320] Mr Thornely-Taylor's PoE Appendix 3
[321] CD01/02 ES pp78-79 paras 6.7.42-6.7.43

Use of alternative metrics

336. The Government expects that alternative metrics will be used not only to ensure that impacts are better understood, but also to inform what mitigation measures might be necessary.

337. In this case, although HAL has provided additional contours in an appendix in the ES,[322] that information has not been relied upon. While a "secondary assessment" has been carried out, and a significance threshold of 55 Lden is used,[323] there is no connection between that and the mitigation measures offered. In the Authorities' submission, because HAL has treated the minimum mitigation standards in the section of the APF on "noise insulation and compensation" as all that is required in this case, in effect, it has ignored the advice in paragraph 3.19 of the APF cited above.

338. Mr Fiumicelli's evidence provides advice about the metrics which should be used in this case in addition to the LAeq, 16 hr. Mr Fiumicelli is not suggesting that the LAeq, 16 hr should be replaced or that no regard should be had to it.

339. In addition to the LAeq, 16 hour metric, he explained that the assessment of noise impacts should take account of the Lden,[324] the LAeq, 8 hr,[325] the LAeq, 30 min,[326] the N70,[327] the LAmax[328] and the Lnight.[329] HAL seemed to acknowledge that each of the metrics have their role to play in the assessment of noise.[330] Of those metrics, Mr Fiumicelli linked what he says is the necessary mitigation for residential properties to the Lden, LAeq, 8 hrs and Lnight[331] and for schools, given the advice in BB93, it was Mr Fiumicelli's evidence that bespoke surveys are necessary to identify the "LAeq, 30 mins worst mode information" for each school likely to be adversely affected.[332]

340. The Lden metric has already been considered: there is no dispute between the Authorities and Mr Thornely-Taylor as to its use and relevance in this case (notwithstanding HAL's failure to base its assessment on it).

341. The LAeq, 8hr metric is a metric which should be taken into account in assessing the noise impact of the appeal proposal, because it allows proper consideration of the effects of alternation, without the masking effect of the LAeq, 16h metric, as explained by Mr Fiumicelli's in his proof of evidence at page 45 paragraph 5.4.17[333]. Mr Fiumicelli's approach is supported by the Institute of Environmental Management

[322] Appendix G
[323] ES table 6.10
[324] PoE p42 para 5.4.1 and on
[325] PoE p45 para 5.4.17 and on
[326] PoE p46 para 5.4.21
[327] PoE pp46 para 5.4.22
[328] PoE p47 para 5.4.25
[329] PoE p47 para 5.4.26
[330] Question to Mr Fiumicelli in XX re the use of different metrics – "I am not saying they do not all have their role".
[331] PoE p56 table 5.1
[332] PoE p74 para 7.1.24 1st bp
[333] And para 6.2.5

and Assessment guidelines for noise impact assessment, which cautions against using a noise index that has a time period substantially longer than the actual duration of the noise in question as it might mask a greater impact at certain times.[334] The CAP report CAP1165 says something similar: "the period over which Leq is calculated has to be relevant to the pattern of noise exposure and any comparisons have to be on the basis of like for like".[335] The T5 Inspector heard considerable evidence about the LAeq, 16h metric. He noted that it had been accepted at the inquiry that it did not reflect the use of alternation. He concluded that "this is such a fundamental feature of operations at Heathrow that I believe any index which fails to reflect it must be open to question."[336] Paragraph 3.39 of the APF refers only to the 16hr LAeq, but it is clear that at Heathrow this metric does not properly reflect the noise impacts actually experienced by communities around the airport. As Mr Waite emphasised in XX, it is also for this reason that it is necessary to look elsewhere for guidance as to the correct approach. In the case of Heathrow in particular, the Government's recommendation that alternative metrics be used to ensure not only a better understanding of noise impacts, but also to inform the development of targeted noise mitigation measures[337] should be respected and applied.

342. A useful exercise, to understand the difference between the 16 hour and 8 hour Leq contours, is to compare figures 6.6 of the ES with G37 within Appendix G. Figure G37 is shaped differently, with "lobes" which include many dwellings to the north and south, which are outside the contour on 6.6. It is clear that the use of the 16hour contour masks the extent of the effect of the development on communities around the airport.

343. The N70 noise metric, which is a well-established measure, indicates the number of aircraft movements that exceed 70dB(A) Lmax at a given location. It can be used to provide an indication of the likelihood of speech interference within residential properties with partially open windows.[338] In his submission to the Airports Commission, Mr Fiumicelli commended the N70 as one of a number of supplementary indices which help to explain noise impacts.[339] HAL has not provided N70 information within Appendix G to the ES. It was not suggested to Mr Fiumicelli (eg in XX) that HAL needed to have been asked for such information by Hillingdon before they would comply with 3.19 of the APF. Mr Fiumicelli's concerns about the omission from the ES of information regarding the frequency and pattern of peak noise levels are made clear in his proof of evidence.[340]

344. Similarly, the LAmax (the simplest measure of a noise event such as the over-flight of an aircraft, the maximum sound level recorded) is an established and useful metric because it is easy to understand and can be used to assess speech and activity interference, sleep disturbance and impacts on learning and teaching.[341]

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[334] PoE p46 para 5.4.19
[335] PoE p46 para 5.4.19
[336] PoE p45 para 5.4.17
[337] CD01/17 APF p58 para 3.19
[338] PoE p47 para 5.4.24
[339] CD01/36 p9
[340] See para 6.2.17- 6.2.18
[341] Mr Fiumicelli's PoE p47 para 5.4.25

Hillingdon asked HAL to provide LAmax information, but nothing meaningful was included within the ES.[342]

345. Lnight is the metric used to cover 2300-0700 hours. The WHO night noise guideline level for Europe is Lnight 55dB interim goal and Lnight 40dB long term goal, to prevent noise induced sleep disturbance.[343]

Assessment of noise arising from the proposal for residential properties: LAeq

346. Table 6.11 of the ES shows that the appeal proposals would result in 10,500 fewer people being within the 57dB Leq,16h contour, 2,350 more people newly coming within the 60dB Leq,16h contour, 5,050 more people newly coming within the 63dB Leq,16h contour, 1,000 people more people newly coming within the 66dB Leq,16h contour, 50 fewer people being within the 69dB Leq,16h contour and 200 more people newly coming within the 72dB Leq,16h contour.

347. As Mr Fiumicelli emphasises, the benefits of runway alternation are taken into account within the overall assessment.[344] Figure 6.13 of the ES shows that there are areas where the effect of dispersion means that in some cases there will be little perceived benefit. It should be remembered that what has been shown on figure 6.13 takes no account of changes to noise preferential routes which are imminently to take place at Heathrow (Mr Burgess XX).

Assessment of noise arising from the proposal for residential properties: Lden

348. Table G6 within Appendix G of the ES is the equivalent table to table 6.11 within the main part of the ES. It shows that 2,400 people would newly come within the 55Lden contour, with roughly equivalent numbers of people no longer being within the 60Lden contour as newly coming within the 65Lden contour. 600 people would newly be within the 70Lden contour and 350 would newly be within the 75Lden contour.

Assessment of the effect of the appeal proposal on local schools

349. The parties disagreed about the right means by which the effect of the appeal proposal on local schools should be assessed. While the ES correctly based its significance criteria on BB93, its assessment did not allow for a judgment about the extent to which compliance with BB93 standards would be affected by the development. Field surveys of existing aircraft noise at or near locations equivalent to the schools that will be affected by the removal of the Cranford agreement, which might validate the approach taken (using LAmax, slow as a proxy for the L1 metric), were not carried out as part of the ES.[345]

350. The ES explains that data has been taken from four monitoring locations.[346] Not all of those locations were near schools. As Mr Thornely-Taylor explained (in XX), information from that monitoring has been used to calculate proxies for the LAeq, 30 minute "in accordance with BB93". When it was put to him that the

[342] See paras 6.2.17-6.2.18
[343] Mr Fiumicelli considers the use of Lnight in the ES at paras 6.2.19-6.2.20.
[344] Mr Fiumicelli's PoE p47 para 5.4.30
[345] Mr Fiumicelli's PoE p68 para 6.2.23
[346] ES CD01/02 p93para 6.8.51

methodology employed brings uncertainty, he said that, "the schools are all being considered individually. Each school is being assessed." While that change of position is certainly welcome, it was not the approach adopted within the ES, which has identified the schools that HAL consider are likely to be significantly affected by aircraft noise arising from the development. Bespoke monitoring is necessary; reliance on average contours is discouraged.[347]

351. Even on the basis of a flawed approach, the ES identified 13 schools "with significant increases in air noise of at least 3dB LAeq, maximum noise levels above the 70dB LAmax threshold due to departures from Runway 09L and likely occurrences of short term noise levels above 50dB LAeq, 30 min".[348] That meant that 13 schools identified would have unsuitable indoor ambient noise levels, which as noted above, affects clear communication of speech between teacher and student, clear communication between students and learning activities. Reference is made to the RANCH study in the context of significance. That work shows that these noise levels, if unmitigated, would have the potential to harmfully affect children's learning.

352. As explained further below, at the ES stage, HAL decided not to offer any mitigation whatever to the 13 schools identified as suffering significant adverse noise effects.[349]

Appropriate mitigation

HAL's mitigation proposals

Review/ consultation

353. Paragraph 3.39 of the APF requires operators to review their compensation schemes when considering developments which result in an increase in noise. Although Mr Rhodes did not seek to rely on consultation conducted in 2011 as satisfying that obligation, it is worth considering the report relating to that consultation in his Appendix 10, the "Heathrow Noise Mitigation Consultation August 2011". The consultation seems to have been conducted in advance of the submission of the planning application, with (as Mr Rhodes confirmed in XX), the Cranford proposals in mind (and see page 7 of that document, first paragraph and last three paragraphs and page 8 top paragraph).

354. What can be seen from that document is that HAL was consulting on changing the metric used within its air noise mitigation scheme to the Lden.[350] It was content to use Lden in the context of mitigation and the level at which it would offer mitigation was 63Lden (61dB LAeq, 16 h), which would make more people eligible for mitigation/compensation. The document makes clear the dissatisfaction with HAL's current schemes, and as Mr Rhodes accepted (XX), the majority of responses supported what was proposed.[351] A key theme of the responses was that the

[347] See INQ17 Shield & Dockrell report p21 conclusion
[348] CD01/02 ES p94 para 6.8.55
[349] CD01/02 ES p110 table 6.31 and p112 para 6.15.1 6th bp
[350] See eg p17 section 4.2 question 2: "outer boundary at 63Lden"
[351] Ibid para 4.2.1 (answers to question 2)

current boundary for eligibility was too small, with some actually specifying 55Lden as the appropriate boundary.[352]

355. Insofar as the document formed any part of the required review of the Heathrow compensation scheme, the majority of people consulted supported an alternative metric and more people being offered insulation, but those proposals were not adopted by HAL. Mr Rhodes said (XX) that he had not received any document which shows how the decision not to adopt those changes was arrived at. That is a most curious position indeed. It seems that a consultation was carried out with the ending of the Cranford agreement in mind, but that nothing further was done by HAL other than to compile the report. Indeed, the inclusion of the report in the appendices to Mr Rhodes' evidence was without any explanation at all.

356. Mr Rhodes claimed (in XX) that he believed HAL had reviewed its consultation scheme prior to making the planning application. However, there was no evidence of any such review. Nor does there appear to have been consultation on such a review, although the process followed in 2011 would suggest that it is HAL's practice to consult on changes to its compensation arrangements.

357. He also pointed to the Noise Action Plan (2014)[353] as having reviewed mitigation at Heathrow, but he had to concede (XX) that it was not produced in contemplation of the appeal proposal and in fact it postdates the submission of the planning application the subject of the appeal.

358. On the basis of Mr Rhodes' evidence there is no reasonable conclusion other than that HAL has not complied with paragraph 3.39 of the APF.

Mitigation proposed between LOAEL and SOAEL: residential properties

359. HAL's Statement of Uncommon Ground (SOUG) addresses what mitigation is provided "between LOAEL and SOAEL" and a long list is provided. We make four points here.

360. First, in a context in which HAL has failed to identify a noise level for LOAEL, it is not clear what HAL can mean by "between LOAEL and SOAEL" in the SOUG.

361. Secondly, it is readily apparent that of all the measures identified, only one is directed specifically to the appeal proposals. In the SOUG HAL says, "With specific reference to the appeal proposals, runway alternation during easterlies will provide respite for communities during easterly operations as well as westerly operations. The proposals seek to implement an important mitigation measure." With the exception of alternation, not one of the remaining measures identified within the list was relied upon as scheme mitigation within section 6.14 of the ES, nor within Mr Thornely-Taylor's written evidence.[354] This is very obviously ex post facto rationalisation of HAL's position.[355]

[352] P18 table 8
[353] CD02/06
[354] See Mr Thornely-Taylor's PoE at p62 para 8.5.4.
[355] HAL's Statement of Case suggested that various existing measures at Heathrow met the second aim of the NPSE, but this was not supported in Mr Thornely-Taylor's evidence.

362. Thirdly, as Mr Fiumicelli emphasised, alternation will not provide "mitigation" or "minimisation" for those residents of Cranford newly overflown on departures; the extent to which they will be overflown or not provides the parameters of the harm they will suffer, not a form of mitigation (a matter returned to below).[356]

363. Finally, because each of those measures is presently in place at Heathrow - the 1000ft rule for example,[357] it is to be concluded that they have already been taken into account in the noise assessment, in that they have informed the extent of noise impact. It is not apt to describe such measures as scheme mitigation.

364. In truth, no mitigation at all is proposed by HAL between LOAEL and SOAEL which is scheme specific and which addresses the noise impacts arising from the development. That is contrary to the statutory development plan, contrary to the NPSE, contrary to the NPPF and contrary to the PPG.

Mitigation proposed between SOAEL and UAEL: residential properties

365. Although HAL do not acknowledge it in the SOUG, the scheme specific mitigation proposed does not begin at the agreed SOAEL level of 63dB LAeq, 16h. Eligibility for insulation begins when a property is not only within the 63dB LAeq, 16h contour, but also experiences a 3dB change. The effect of the combined eligibility criteria is that only a tiny area is covered: very few properties (175 in total[358]) qualify for the noise insulation scheme. That can be seen on figure B attached to the June 2015 technical note produced after the inquiry by HAL "Noise Contours and Insulation Schemes". We address what the Authorities regard as the unmitigated residual impacts below.

366. There is also a dispute between the Authorities and HAL as to what standard the noise insulation should be directed to achieving. The Authorities maintain that the aim should be to meet the standards set out in BS8233:2014 in order to provide a satisfactory internal noise environment within the homes eligible for the insulation scheme.[359] HAL would not wish a standard to apply. HAL seems to consider that the matter can be left to a noise assessor to recommend whatever measures can be undertaken "as far as is reasonably practicable having regard to an engineering solution that is cost-effective and feasible and without the need for further regulatory approvals" with a view to "reducing internal noise levels" (our emphasis).[360] There is no standard applied; and much uncertainty here, even for the few properties that are actually eligible for mitigation. As Mr Fiumicelli explains in his proof of evidence[361], it is important to incorporate BS8233:2014 in the mitigation scheme, especially in the light of the guidance in the PPG.[362] Whilst Mr Thornely-Taylor sought to gloss over it[363], the guidance is up to date and relevant,

[356] Mr Fiumicelli EiC, XX and re-x
[357] See Mr Burgess' PoE p8 para 3.2.3
[358] CD01/02 ES p110 table 6.31, cf Mr Thornely-Taylor's PoE at p58 and his RPoE at p8 para 4.1.1 which both wrongly suggest 350.
[359] See eg the Authorities Note in respect of s.106 Unilateral Undertakings at paragraph 5(iv)
[360] Unilateral undertaking – "Noise Insulation Measures" definition.
[361] And in his oral evidence in chief
[362] See paras 5.5.29-5.5.32 and Table 5.1 and 7.1.19 and Table 7.1 of Mr Fiumicelli's PoE.
[363] Para 4.1.12 of Mr Thornely-Taylor's RPoE

in particular because it provides clear and established noise levels (based on existing guidelines issued by the World Health Organisation).[364]

367. Section 8 of Mr Thornely-Taylor's proof of evidence seeks to argue that the level of 63 dB LAeq 16hrs is an appropriate figure for insulation, but the points made are unconvincing. His comments on secondary glazing and ventilation can be compared with those of Mr Fiumicelli with reference to the PPG and BS8223[365]. Mr Thornely-Taylor has turned a blind eye to the guidance in the PPG, that insulation is appropriate at levels below SOAEL, and also to the guidance in the up to date BS 8223 (based on WHO guidelines). As to Mr Thornely-Taylor's assertion that some householders do not take up offers of noise insulation, no detailed evidence on this was given and Mr Rhodes said in cross-examination that the reason for non-take up of HAL's existing day noise insulation scheme was because of the significant costs notwithstanding a contribution. This should be taken into account in considering whether that scheme is sufficient for those newly within the 69dB LAeq, 16hour contour who do not wish to relocate (see above).

368. Mr Thornely-Taylor's reference to the EEA Technical Report 11/2010 does not assist his argument either, because it refers to an increase in the gradient of the curve relating to the percentage "highly annoyed" at a level below 63 dB LAeq 16hrs. His reference to Lnight is also of limited assistance to him because, as he notes, the relationship between Lnight and LAeq 16hr varies with location and modal split, and even taking at face value his assertion that a noise insulation threshold of 63 dB LAeq 16h may broadly achieve mitigation at 55 dB Lnight, despite there being no evidence submitted to prove this; it means there will still be some people below a day time noise level of 63 dB LAeq 16h level who will be above the 55 dB Lnight interim target of the WHO Night Noise Guidelines for Europe who will not be offered noise insulation.

369. Mr Thornely-Taylor's arguments to suggest that 63 dB LAeq 16hrs is "appropriate" for this scheme appear the more unconvincing when one notes that HAL are offering noise insulation substantially below 63 dB LAeq 16hrs as part of the proposed third runway noise mitigation measures (on which we comment elsewhere in these submissions).

370. Mr Thornely-Taylor's efforts to justify a lower limit for the offer of a contribution towards the costs of noise insulation of 63 dB LAeq 16hrs can be sharply contrasted with the approach of the other airport within the M25 i.e. London City Airport; which offers to fully resource the installation of noise insulation from a much lower threshold of 57 dB LAeq,16 hrs.[366]

371. The scheme fails to avoid significant adverse impacts between SOAEL and UAEL.[367]

[364] See Table 4 and the notes
[365] In particular at paras 5.5.2-5.5.32 and 7.1.17-7.1.19 of Mr Fiumicell's PoE
[366] Mr Fiumicelli's oral evidence
[367] NB, it cannot be said, as was said by HAL by reference to the Noise Action Plan, that the Secretary of State has approved the content of the noise compensation schemes because that document does not contain the relevant detail of the schemes

UAEL

372. At UAEL, which is agreed to be 69dB LAeq, 16 hour (or its equivalent, see the Authorities' SOUG), there is a home relocation assistance scheme.

373. INQ22 provides the details of the scheme specific relocation assistance scheme. Properties are eligible if they come within the 69dB LAeq, 16 hour contour shown on the plan attached to the Unilateral Undertaking and experience daily external noise levels of 69dB LAeq, 16 hour or more. It is the only document available to the inquiry which provides any sort of review of the relocation scheme (we have considered the requirement to carry out a review, per paragraph 3.39 of the APF, earlier). As Mr Rhodes confirmed (XX), it was not carried out by HAL but by him, and only in the course of the inquiry when the point was raised.

374. It appears from INQ22 that the sums offered as part of the home relocation assistance are: a £5,000 lump sum + 1.5% of the value of the property sold, to a maximum of £7,500. As Mr Rhodes confirmed (in XX), there has been no change to the package since 2005.

375. INQ22 offers no understanding of the actual costs of moving. Mr Rhodes accepted (XX) that it did not consider estate agency fees, surveying fees, legal fees, mortgage fees or some of the practical costs of moving – fitting out a new property. He accepted (XX) that INQ22 is not an adequate or sufficient review of the adequacy of the £12,500 sum. The Secretaries of State will have to conclude about whether the package is appropriate. Reference to the Noise Action Plan being approved by the Secretary of State does not assist HAL here. The details of the financial assistance are not set out in that document.

376. Those newly coming within the 69dB LAeq, 16 hour contour, who are eligible for the relocation scheme but who do not want to relocate, will not be eligible for the proposed insulation scheme. This was a query raised by the Inspector during the conditions/s.106 session of the inquiry and the answer is confirmed in HAL's technical note "Noise Contours and Insulation Schemes". As a result of the 3dB change criterion, only very small areas are included within the noise insulation scheme; and those areas do not include areas within the 69dB LAeq, 16 hour contour (see figure A). Those people will be eligible for HAL's existing day noise insulation scheme based on the 1994 69dB LAeq, 16 contour, but as we note elsewhere, that scheme does not match current noise contours. Mr Rhodes suggested that take up of that scheme had been limited by its condition as to part funding and HAL did not suggest it complied with the APF.

Schools

377. On the basis of eligibility criteria of: (1) being newly within the 63dB LAeq, 16 hour and (2) experiencing a +3dB increase in noise exposure, the ES concluded that although 13 schools stood to be significantly adversely affected by noise caused by the development, none were eligible for mitigation.[368] This was said to be "in accordance with the guidance in the APF".[369]

[368] CD01/02 ES p94 para 6.8.55 and p110 table 6.31
[369] CD01/02 ES p94 para 6.8.56

378. In HAL's Statement of Case (September 2014), suggested draft heads of terms for the s.106 planning obligation seemed to indicate a change (section 6 under noise mitigation at 5). That was confirmed in a letter dated 1 October 2014 to Hounslow.[370]

379. Two things then happened. The +3dB change criterion was dropped and HAL abandoned reliance on BB93.

380. As a result of changing the eligibility criteria, 9 of the 13[371] schools identified in the ES as likely to be significantly adversely affected by noise caused by the development were proposed to be eligible for HAL's mitigation scheme. It follows that there are still schools that even HAL consider likely to be significantly adversely affected, which will not receive any mitigation at all.

381. HAL's position in the letter of 1 October 2014 was to look only at the 63dB LAeq, 16 hr contour. The letter said, "we acknowledge that Hounslow have expressed concerns with the use of the 16 hour average metric, however, we consider that our offer complies with the advice contained within the Government's Aviation Policy Framework".

382. It is worrying that HAL now insists on using that metric as the basis for deciding eligibility for mitigation, because, as noted earlier, it masks impacts. It is critical that the first filter for eligibility is one which allows proper assessment, including being able to evaluate alternation properly, with regard to the duration of the school day (pupils would not benefit from alternation after 3pm). This is why the 8 hour Leq is vastly superior to the 16 hour Leq and has been relied upon by Hounslow in identifying the schools which are likely to be significantly affected and require mitigation.[372]

383. Hounslow is concerned that eight schools are likely to be significantly adversely affected by aircraft noise from the appeal proposal, but will receive no mitigation at all.

384. They are:

(i) Berkeley Primary School

(ii) Cranford Community School

(iii) Norwood Green Infants School

(iv) Norwood Green Junior School

(v) St Mark RC Secondary School

(vi) The Heathland School

(vii) Springwell Infant

(viii) Springwell Junior.

[370] Mr Thornely-Taylor's Appendix 2 p66
[371] It is not clear whether how the ES or the letter intended to treat Cranford Junior/Cranford Primary, as one school or two.
[372] INQ26

Community buildings

385. The ES identified that five healthcare facilities will suffer significant adverse noise effects arising from the scheme during daytime periods. So far as HAL are concerned, none is eligible for any mitigation.[373]

Residual unmitigated effects

386. Alternation, which is heavily relied upon by HAL, is only a mitigation measure for communities already affected and who will benefit from the proposals, such as those living to the west of the airport. It is not mitigation for those newly overflown. The APF does not treat respite for those newly overflown as a mitigation measure.[374] Alternation will not mitigate or minimise the harm caused by the increased flights and "new" noise for people newly overflown, as Mr Fiumicelli explained.[375] Moreover, people living closest to the airport and who already experience the highest noise levels but happen to be located approximately mid-way between the approach and departure tracks of each runway will not experience a meaningful reduction in noise when the runways alternate, instead they will only get a change in the direction from which the loud noise propagates. Those people, who HAL acknowledge will suffer adverse effects, deserve proper mitigation, but the mitigation proposed falls well short of what should reasonably be expected from HAL. HAL says that the impact is limited by the fact that it occurs c.12% of the time, but that will equate to a significant proportion of the year, and it will be remembered that schools will not benefit from alternation after 3pm (the 8 hour LAeq perfectly fits the school working day). Mr Fiumicelli explained in some detail the limitations of the benefits of respite.[376]

387. There will be significant residual impacts which will go unmitigated if HAL's scheme were to be accepted unchanged, unacceptably reducing the quality of life and risking the health of the community living around Heathrow.

Residential properties

388. Using the 16 hour Leq contour, tables 6.11 and table 6.13 of the ES shows that of the 1,950 additional dwellings within the 60dB contour or above (600+900+400+50), only 525 (175+350) will be eligible for any mitigation, leaving 1,600 dwellings without any mitigation.

389. Of those 1,950 dwellings, 1,700 will experience a +3dB change and are therefore categorised within the ES as suffering significant adverse effects.[377] 1,175 homes (1,700 – 525) or more than 3,000 people will suffer significant adverse noise effects, on the basis of the 16 hour Leq, using HAL's measure of significance, but they will not have any real mitigation of the adverse noise effects they will suffer.

390. Using Lden, far more people come within the contours identified as significant by HAL (55Lden is the threshold for significance in the secondary assessment). Mr Thornely-Taylor suggested at one point in XX that greatest weight should be

[373] CD01/02 ES p95 para 6.8.60 and 6.8.62
[374] See paras 3.28 and 3.32
[375] In his oral evidence
[376] See paras 7.1.5-7.1.16 and his oral evidence.
[377] CD01/02 ES p85 table 6.12

given to the contours with the greatest number of people in them, which, he acknowledged, would be Lden contours. As can be seen from table G7 of Appendix G, the total number of dwellings significantly adversely affected would be 4,650 and as above, only 525 would be eligible for any mitigation.

391. Another way of expressing the residual impact is to consider the matter in the context of LOAEL, SOAEL etc. It is Government policy (expressed in the NPSE and NPPF and detailed in the PPG) that adverse effects, ie those between LOAEL (54dB LAeq, 16 hours or the equivalent) and SOAEL (63dB LAeq, 16 hours or the equivalent) should be both "mitigated and minimised". In this case, HAL has not proposed mitigation (properly described), for any noise impact below SOAEL.

392. The reason HAL seems to have arrived at this position, is its approach to what the APF says. With page 63 of the APF in mind ("noise insulation and compensation") Mr Rhodes was asked whether for the purpose of judging the adequacy of mitigation, he needed to look further than that page. He said, "I wouldn't preclude anyone from doing that, but I find everything I need on this page, I think the Inspector will too. [This page] is informed by other policy. Giving full weight to that, the guidance is distilled into this page." HAL gives no force to the words "as a minimum" within paragraph 3.39, not applying them to the threshold for mitigation but only to what financial assistance might be offered (leaving aside the question of how far the LAeq 16 hr metric is useful at Heathrow airport). In effect, HAL ignores the overarching policy at 3.12 that "overall policy is to limit and where possible, reduce the number of people in the UK significantly affected by aircraft noise" and the link between the APF and NPSE at 3.13. It does not accord fully with paragraph 123 of the NPPF nor address properly the first and second aims of the NPSE by providing scheme specific mitigation directed to mitigating the harm that would be suffered as a result of this development. In terms of paragraph 2.23 of the NPSE, HAL has not "avoided" the significant adverse effects of the appeal proposals on health and quality of life. In terms of paragraph 2.24 of the NPSE, HAL has not taken "all reasonable steps" to mitigate and minimise the adverse effects. In terms of the PPG, HAL's proposals do not "avoid" the significant adverse effects" of the scheme nor "mitigate and reduce to a minimum" the adverse effects. Moreover, there is also a total disregard of paragraph 3.28 of the APF. HAL has not demonstrated that it has made "particular efforts" to mitigate the adverse effects of the proposals (indeed, HAL chose to ignore this paragraph). So too, in effect, does it ignore statutory development plan policy, which requires "full account" to be taken of environmental impacts, "sufficient" and "adequate" mitigation. The same can be said for HAL's approach to the other, non-residential impacts to which we return below.

393. In the Authorities' submission, the residual impacts for residential properties are significant and unacceptable.

Schools

394. As noted above, there are eight schools which the Authorities judge likely to be significantly affected by aircraft noise, which will not receive any mitigation if planning permission goes ahead with the obligations in the s.106 Unilateral Undertakings unchanged. Given the seriousness of the implications for children's schooling, the Secretaries of State should not judge this acceptable.

Community buildings

395. Five healthcare facilities would suffer significant adverse noise effects arising from the scheme during daytime periods. None would be eligible for any mitigation.

Outdoor space

396. It appears that the ES carried out no quantitative assessment of noise impacts on outdoor public or private amenity areas[378] and where it has considered impacts on outdoor public amenity spaces this is for a limited number of locations; and based on a subjective appraisal did not consider mitigation is necessary. It was Mr Fiumicell's evidence that HAL should provide funding to provide, improve and maintain facilities in local open public amenity spaces; and, he suggested, community access via public transport to Quiet areas and areas valued for tranquillity outside the 54dB LAeq, 16h noise contour.[379]

397. Mr Thornely-Taylor's response was not to scoff at such suggestions, but to say that "Heathrow already operates a number of community funds where grants can be applied for community focussed projects which can include improvements to outdoor amenity areas".[380] That may be true, but it does not address in any secure or committed way the impact of the development on outdoor amenity areas local to the airport, which seem largely to have been left out of account by HAL.

Authorities' case on necessary mitigation

398. A full explanation of the mitigation which the Authorities regard as necessary in order to properly mitigate the impacts of the scheme and thereby comply with policy has been set out in the Authorities' evidence and identified in short form in its SOUG, and will not be repeated here. A proper and fair reading of the letter dated 28 April 2015[381] is not that it is promoting mitigation based on the LAeq 16hr contour; instead it answered HAL's specific questions. It made clear its approach to mitigation by reference to a suite of measures and clearly did not adopt HAL's basis of the 16hr LAeq except on the premise that the Inspector and Secretaries of State would reject the Authorities' case. As Mr Fiumicelli confirmed (in re-examination), he advised the Authorities on that letter, and the letter and his proof of evidence[382] are entirely consistent.

399. In the light of the detailed comments made above, it suffices that we make the following short points in support of the Authorities' mitigation proposals.

400. For residential properties, mitigation begins at LOAEL of 54dB LAeq, 16 h or its equivalent and then, in proportion to the external noise environment and having regard to what internal noise levels should be achieved, the mitigation requirements increase in a stepped manner.

401. For schools, the Authorities maintain that it is the 8hr contour which should be used to identify eligible schools, in that it will allow proper assessment of the effect of

[378] See INQ45 for contour plans showing public open spaces.
[379] Mr Fiumicelli PoE p73 para 7.19 bp6
[380] Mr Thornely-Taylor RPoE p13 paras 4.5.1-4.5.2
[381] INQ10 pp68-73
[382] In particular paras 7.1.17-7.3.2

departures eastwards on the northern runway on the particular school. The assessment, which needs to be bespoke, then seeks to either achieve BB93 standards or minimise the extent to which they are exceeded.

402. For community facilities, the Authorities consider that the five healthcare facilities which have been identified[383] as likely to be significantly adversely affected should be offered mitigation.

403. For outdoor areas, and starting at areas within the 54dB LAeq, 16 hour contour (LOAEL), HAL should be required to reconsider their position and offer mitigation to address the effect on such areas, as a necessary part of mitigating the impacts of the scheme. Mr Fiumicelli's evidence[384] offers suggestions as to how that might be done, as summarised within the Authorities' SOUG.

Fairness

404. HAL argued that providing mitigation at a "lower threshold" than is used in existing schemes at the airport would result in unfairness. In our submission, the provision of appropriate mitigation is fair and proper; and if that were to give rise to differences around the airport, that is a matter for HAL to resolve if it considers that to be necessary, but it is not clear why it would give rise to such differences – those within the contour (and whatever other eligibility criteria applied) would be entitled to mitigation, those outside would not.

405. When the HAL technical note "Noise Contours and Insulation Schemes" is considered, the argument is even weaker than it first appeared. A comparison between the insulation scheme proposed as part of the appeal and the "day insulation scheme boundary" (marked in green on figure A) shows that the insulation schemes are based on different thresholds and in the main would benefit new households. However, no substantive evidence was submitted to demonstrate this and the Authorities would have wished to question it. In any event, it can be concluded that the LAeq,16 hr noise contour of 69 decibels that HAL uses does not match or follow a modern noise contour of LAeq,16 hr 63 decibels and that there is no evidence to demonstrate that there is no material difference.

406. At the heart of HAL's objection is appreciation that if a lower threshold were used, or more appropriate metric, more people would benefit from insulation. That is not unfair, it is just contrary to HAL's commercial interests.

AIR QUALITY (Issue (v))

HAL's position

407. The final version of the s.106 planning obligation[385] offered by HAL includes a £540,000 air quality contribution, to be paid towards the air quality mitigation measures, which are "Measures to improve vehicles used in the bus fleets passing through Longford with the objective of reducing the NOx emissions from such vehicles to achieve Euro VI or better emission standards". Clause 2.3 (re the application of the regulation 122 test) does not apply in respect of the obligation to

[383] CD01/02 p95 para 6.8.60
[384] On page 73
[385] Unilateral undertaking (final version for engrossment)

pay the air quality contribution. That means that whatever the conclusions of the Secretaries of State about the regulation 122 tests (necessary, directly related to the development, fair and reasonable in scale and kind), if planning permission is granted and implemented, that sum will be payable. At the same time, we understand that HAL maintains that the contribution is unnecessary.[386]

408. The implications of HAL's decision to offer the air quality contribution need to be considered. In the Authorities' submission, the only correct inference to draw is that HAL recognises that the contribution is in fact necessary to address the scheme's air quality impacts. HAL must have its own reasons for not wishing to make that concession.

409. The practical effect of HAL's offer was that the issue of air quality was dealt with not in inquiry session, but in a manner akin to an informal hearing, with the Inspector taking an inquisitorial role, as befitted what had become a relatively uncontentious issue. However, in light of HAL's apparent refusal to accept that the contribution is necessary, the issue must be addressed.

Development plan policy

410. Regional and local tiers of the development plan require that air quality impacts are mitigated. Professor Laxen's written evidence makes that clear;[387] and will not be repeated, save to note the following.

411. Policy 7.14 of the London Plan 2015[388] "Improving Air Quality" should be read as a whole. Part B(c) contains a requirement that development should be at least "air quality neutral" and significantly in this case,[389] "should not lead to further deterioration of existing poor air quality (such as in areas designated as Air Quality Management Areas)."

412. Policy EM8 of the Hillingdon Local Plan: Part 1 (2012)[390] says that, "all development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and sensitive receptors".

413. Policy A2 of the Hillingdon Local Plan Part 2 (2012)[391] deals specifically with planning applications within the boundary of Heathrow airport. It requires that such applications "should include sufficient measures to mitigate for or redress the effects of the airport on the local environment".

414. Professor Laxen's evidence also addresses the NPPF,[392] APF[393] and the PPG.[394] Again, save to note that the statutory development plan is relevant and up to date,

[386] Counsel for HAL in the air quality session said: "HAL will do all that it reasonably can to improve air quality. We will not take [the contribution] away if it is found not to be necessary".
[387] See Professor Laxen's PoE pp10-13
[388] CD01/19
[389] Hillingdon has declared an AQMA for nitrogen dioxide that covers all of the borough to the south of the Chiltern-Marylebone railway line, see Professor Laxen's PoE p13 para 3.40
[390] CD01/20
[391] CD01/21
[392] Professor Laxen's PoE p7 para 3.9 and on
[393] Professor Laxen's PoE p9 para 3.16 and on
[394] Professor Laxen's PoE p8 para 3.11 and on

being consistent with the aims and objectives of national policy and guidance, what he says need not be repeated.

415. It is Professor Laxen's evidence that the London Councils guidance should be taken into account in the decision.[395] Mr Whall has not sought to suggest otherwise. He could hardly do so, given that the ES relies on it.[396] The London Councils guidance sets bands at which there are certain recommendations, for example Air Pollution Exposure Criteria ("APEC") B – "May not be sufficient air quality grounds for refusal however appropriate mitigation must be considered", or C – "refusal on air quality grounds should be anticipated...".[397]

The decision to end the Cranford agreement

416. In Mr Whall's written evidence, he said that the ending of the Cranford agreement was on the basis of assuming higher predicted NO2 concentration increases than will actually result from the appeal proposal.[398] That is not in dispute, but as Professor Laxen pointed out, the modelling done as part of that work predicted that concentrations would be substantially lower than are now being measured.[399] The assumptions made at that time[400] were overly optimistic about decreasing trends. Professor Laxen warns against making similarly overoptimistic assumptions now.[401]

The main issues between the Authorities and HAL

417. The main air quality issues between the parties are:

418. For the annual mean objective:

(i) Calculating the correct baseline

(ii) The effect of the development

(a) The correct number of ATMs for a worst case assessment

(b) Exceedence of the annual mean objective.

419. For limit value

(i) Relevance

(ii) Scheme effects

Annual mean objective – calculating the correct baseline

420. The baseline adopted by HAL is for 2013, for which it has a detailed inventory and model verification. Monitoring results are available for Green Gates, but this site is located about 15m away from Bath Road and well away (~180m) from the A4. It is also not as near to the airport as some existing properties. In other words it is not representative of the worst case.

[395] Professor Laxen's PoE p21 para 5.16 and his appendix A12
[396] CD01/02 para 7.7.69-7.7.75
[397] Professor Laxen's Appendix A12
[398] Mr Whall PoE p12 para 3.2.11
[399] Professor Laxen RPoE p2 para 2.1
[400] 2007 – see Mr Whall PoE p12 para 3.2.7
[401] Comment in air quality session

421. Professor Laxen concluded that he needed to rely on modelling to arrive at an appropriate 2013 baseline.[402] HAL has not presented results for 2013. However, it has presented results for 2017. These have been used by Professor Laxen to calculate the 2013 baseline, which can be used to represent an "Adjusted set of 2017 concentrations with no downward trend", see his appendix A16.[403]

422. In respect of the 2017 baseline, three issues were considered at the air quality session: meteorology, traffic modelling and trend assumptions. Professor Laxen explained that he made adjustments only in respect of the latter and observed that the concerns he has about meteorology and traffic modelling mean there is all the more reason to ensure there is realism about trend assumptions, particularly over such a short period of time to 2017.[404]

423. There seemed not to be a dispute between Mr Whall and Professor Laxen that it is appropriate for an air quality assessment to be carried out on the basis of "reasonable worst case" assumptions.

424. Professor Laxen's concern about meteorology was that Mr Whall had not selected a "reasonable worst case" year, but rather, had used the worst of only three years he had considered.[405]

425. HAL's traffic modelling evaluation report made clear that there were significant uncertainties in relation to the road traffic NOx contributions. In his written evidence Professor Laxen said this: "... there must be some considerable uncertainty associated with the modelled contributions of the road traffic (even after adjustment). This will give rise to uncertainty as to the absolute concentrations near to the roads in the study area".[406]

426. Mr Whall accepted that there are discrepancies between some of the traffic flows in HAL's model and those measured by DfT and that some of those discrepancies were quite large.[407] He acknowledged that the model may continue to under-predict NO2 concentrations in some areas.[408] However, he argued that this would not apply in locations such as the Green Gates site in Longford.[409] Professor Laxen's reply in the hearing session was that Mr Whall's argument was not supported by the measured data in that location.

427. The principal issue between the parties in relation to the baseline was whether it was appropriate to assume a substantial downward trend in concentrations to 2017. There are three points to note here.

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[402] See Professor Laxen's PoE p20 para 5.14
[403] See the first page of A16 at p73 and then the Adjusted Concentrations' 'Base' column in Table A16.1 of DL PoE Appendix A16 (page 74). Note that Receptor 3 is Green Gates at 35.0 µg/m3 and Receptor 114 is the highest at 39 µg/m3. Note also that Receptors 113 and 114 are both on different facades of one property at the western end of Bath Road in Longford - see Figure 7-3 in the ES (CD/01/02).
[404] See Professor Laxen's PoE pp18-21 and his appendix A16
[405] See Professor Laxen's PoE p19 para 5.9 and Mr Whall's RPoE para 2.3.6
[406] Professor Laxen PoE p19 para 5.7
[407] Mr Whall RPoE para 2.2.2
[408] Mr Whall RPoE para 2.2.4
[409] Ibid para 2.2.5

428. First, the downward trend in concentrations assumed by HAL accounts for its conclusion that there will be no exceedence of the annual mean objective in 2017. HAL assumes a downward trend of 8%[410] between 2013 and 2017. While Mr Whall's written evidence describes Professor Laxen as "using this 9% increase... to suggest that very minor exceedences... will occur".[411] NB the difference between 8 and 9% results from rounding within the calculation necessary to exclude the effect of the downward trend assumption.

429. Secondly, there is no credible evidence that trends have in fact been decreasing. The trend plot for Green Gates produced by Professor Laxen to aid discussions at the air quality session excludes the years up to 2004 (on the basis of a query raised by Mr Whall in his RPoE[412]). Even excluding those years, there is no significant downward trend shown.

430. Finally, because there is considerable uncertainty about the matter, in order to use a reasonable worst case, no downward trend should be assumed.

Annual mean objective – the effect of the development

431. The entire ES is based on 480,000 ATMs.[413] It is testament to the sensitivity of the area (and the effect of the development on annual mean objective and limit values) that HAL now seeks to re-base its air quality assessment (and no other part of the ES) so that rather than 480,000 ATMs, it is based on something less.

432. Mr Whall's written evidence seems not to be consistent. In his proof of evidence he suggests the use of 471,400 ATMs.[414] His appendix 4 suggests that 470,400 ATMS should be used.[415] Neither can possibly represent a reasonable worst case, because, as appendix 4 shows, in 2 of the 7 years included, the higher figure has been exceeded. In 4 of the 7 years, the lower figure has been exceeded.

433. Mr Burgess agreed (XX) that the purpose of the introduction of ACDM is to allow Heathrow to use as much of its capacity as possible, without exceeding the cap. In all the circumstances, the cap of 480,000 is an appropriate reasonable worst case and should be used.

434. Professor Laxen's analysis shows exceedences of the annual mean objective.[416] Mr Whall's written evidence had seemed to claim that beneficial effects elsewhere might "balance" harmful effects in Longford.[417] Sensibly, HAL did not seek to claim at the air quality session that mitigation became unnecessary on the basis of benefits elsewhere. It was Professor Laxen's evidence at the air quality session that annual mean objective exceedence justified the mitigation sought.

[410] See DL at PoE para 5.14 and CW RPoE para 2.4.5
[411] Mr Whall RPoE para 2.4.2
[412] Mr Whall RPoE para 2.4.6
[413] CD01/01 ES para 4.7.9
[414] Mr Whall PoE p24 para 5.2.14 2nd bp
[415] Mr Whall PoE appendix 4 3rd para
[416] His appendix A16
[417] Mr Whall PoE p27 para 6.1.4 3rd bp

Limit value - relevance

435. Professor Laxen explained (during the air quality session) that in his opinion, air quality professionals have been slow to address the importance of the Government's obligation to secure compliance with EU limit values.[418] He made reference to the Supreme Court judgment in the case of R (on the application of ClientEarth) v SofS [2015] UKSC 28 in emphasising that achieving compliance with limit values is not optional. It was his view that planning decisions should take account of limit values; and should contribute to compliance.

Limit value - scheme effects

436. There are existing significant exceedences of the limit value, as shown in Professor Laxen's A1 figure 3 and see also the roadside locations in figure 4. The scheme makes those exceedences worse.[419] At the air quality session, Professor Laxen explained that the adverse effects shown within table B5.1 justify the mitigation sought by the Authorities.

Conclusion on air quality matters

437. A judgment about the significance of effects is required, in deciding whether the mitigation sought by the Authorities (and agreed by HAL) is necessary.

438. Professor Laxen calculates that exceedence of the annual mean objective in Longford is likely as a result of the scheme.[420] Moreover, again, on the basis of his work, 24 receptors would fall within the APEC-B band within the London Councils Guidance. That means consideration should be given to appropriate mitigation (see above).

439. Applying the new IAQM guidance on judging significant effects, Professor Laxen indicates that 25 receptors in Longford would experience a "moderate adverse" effect caused by the scheme.[421] He says, "in my view these impacts are significant and therefore necessitate mitigation".[422]

440. Finally, he says that the worsening of a limit value exceedence would conflict with the policies he set out in section 3 of his evidence. It would "certainly justify mitigation".[423]

441. For any or all of those reasons, it should be concluded that the proposed mitigation is necessary.

PLANNING OBLIGATIONS AND CONDITIONS

s.106 obligations

442. Following the conditions/s106 inquiry session the Authorities submitted a note on 3 July 2015[424] providing their comments on the two unilateral undertakings offered

[418] See Professor Laxen's PoE p6 para 3.2 and 3.3
[419] See Professor Laxen's RPoE p4 para 4.1 and Appendix B – B5.
[420] See his PoE at p21 para 5.16
[421] See his PoE at p16 para 4.11 and p21 para 5.17-5.18
[422] See his PoE p22 para 5.19
[423] See his PoE p22 para 5.24

by HAL. Some comments have resulted in minor changes, as HAL's response explains, which are welcome. Others, in the main regarding points of principle, have not. While those points will not be repeated here, the Authorities maintain them and ask the Secretaries of State to take them into account in the context of the Authorities main case and the evidence in support of it.

Conditions

443. The Authorities submitted a list of conditions to the Inspectorate, on 3 July 2015.[425] Three of the conditions suggested by the Authorities will be considered further here. However, before turning to the details of the proposed conditions, it is appropriate to address whether, in light of the separate airspace change process (if and to the extent that it applies), it is open to the Secretaries of State to impose conditions to prevent the introduction of full or further partial mixed mode, removal of westerly preference or further night flights.

444. The PPG provides guidance here. It makes clear that the essential test is "relevant to planning".[426] It is the Authorities' case that the conditions advanced by them are indeed "relevant to planning".

445. There is no authority that we are aware of that deals specifically with the relationship between the planning regime and that controlling airspace changes. There are, however, numerous decided cases which consider the way in which the overlap between planning and other regulatory regimes should be addressed in planning decisions. Relevant authorities establish that the fact that an impact might be capable of being regulated under a different regime does not necessarily mean that the only option available to a decision maker is to leave that matter to be addressed under that regime.[427] It is open to the decision maker to refuse planning permission, or impose a condition, as is appropriate in all the circumstances.

446. In his written evidence, Mr Rhodes sought to suggest that the Authorities propose these conditions in order to wrest control over airport matters which are not their proper purview.[428] Nothing could be further from the truth. As Mr Rhodes had to concede in cross examination, the Secretaries of State are seized of this planning decision and it is they who are asked to decide now whether the proposed conditions are necessary and appropriate in the context of relevant development plan policy and paragraphs 109, 123, 203 and 206[429] of the NPPF. The PPG, properly interpreted, does not provide a bar against the imposition of the conditions that the Authorities seek; in all cases it is left to the decision maker to determine the appropriateness of proposed conditions.[430] Moreover, it is clear from the APF itself that the Government actually contemplates that conditions (and/or s106 obligations) can be imposed to address noise effects arising from development

[424] Cranford LHR- s106 note 03.07.015
[425] 150703 List of Conditions_v.final.doc
[426] See also the NPPF at para 206. PPG reference: ID21a 004: "specific controls outside planning legislation may provide an alternative means of managing certain matters (for example, works on public highways often require highways' consent" (our emphasis).
[427] See Lethem v SSTLG [2003] 1 P&CR 2 at [19-20], Hopkins Developments v First SS [2007] 1 P&CR 25 at [11] and Harrison v SSCLG [2010] JPL 885 at [20-22]
[428] Mr Rhodes' RPoE p12 paras 3.12-3.14
[429] Applying to s106 obligations as well as conditions
[430] Reference ID: 21a-004-20140306 (see cross-examination of Mr Rhodes)

proposals at airports where there is an influence on aviation.[431] The fact that there is another regime dealing with air space changes does not alter the position that the Secretaries of State will be considering the question of conditions (and s106 obligations) in the light of Government policy and fully aware of all material considerations. In all the cases below, it is open to the Secretaries of State to conclude on the evidence available that there is a necessity now for conditions to be imposed. Nor in such circumstances can there be anything wrong in principle or practice with the imposition of such conditions simply because that would require an application to be made to the Local Planning Authority for variation if necessary (with the opportunity of appeal to the Secretary of State should that be necessary).[432]

Mixed mode

447. This is the condition requested:

> *"There shall be no suspension of runway alternation at Heathrow airport, save in the following circumstances:*
>
> *• [For] safety reasons;*
>
> *• When one runway is closed; or*
>
> *• As a tactical temporary measure, to increase the flow of arriving aircraft only, when severe inbound congestion occurs in the air, or is likely to occur, involving airborne holding delays of thirty minutes and at least twenty minutes delay in the inner stacks.*
>
> *No later than 28 days after the end of each season, the airport operator shall provide a report to the local planning authority providing details of any and all occasions on which there has been suspension of alternation. The report shall include the number of movements out of alternation per month, detailing the reason for the suspension of alternation for those movements."*

448. In drafting the condition, the Authorities sought to reflect the current position at Heathrow (ie excluding enhanced TEAM and the other proposed changes trialled during the Operational Freedom trial which are supported by the Airports Commission and which increase the instances of suspension of alternation at the airport).

449. There are five important reasons why a condition is necessary to prevent either full mixed mode or further partial mixed mode at Heathrow.

450. First, the introduction of full mixed mode, or further erosion of alternation runs directly contrary to the central aim of ending the Cranford agreement, that is to provide full alternation in order to benefit those living to the west of the airport.

451. Secondly, a linked point, the introduction of mixed mode, or further erosion of alternation would give rise to significant adverse noise impacts for the communities around Heathrow and therefore should be resisted. Adding Capacity[433] concluded

[431] See generally s3 and in particular paras 3.10, 3.20 and 5.6-5.7
[432] Just as was done in the Terminal 5 case.
[433] CD01/24

that mixed mode could be introduced within the current ATM cap.[434] On whatever basis, a "key impact of mixed mode operations would be the loss of 'runway alternation' on the existing runways which currently provides communities below the flight paths with predictable periods of relief from aircraft noise".[435]

452. Thirdly, because the planning application the subject of the appeal creates the physical conditions which would allow the introduction of full mixed mode (or greater use of partial mixed mode), it is necessary to impose a condition now in order to prevent that from taking place.

453. Fourthly, neither full nor increased use of partial mixed mode has been the subject of assessment within the environmental impact assessment for the scheme. It is clear that if the cumulative assessment had been done properly, it would have shown significant adverse effects and would provide further support for the imposition of a condition now.

454. Finally, there is no good reason for the decision not to be taken here, where the issue arises. The noise impacts arising from mixed mode are so serious that they should be addressed here and prohibited by condition. It is open to the Secretaries of State to impose such a condition, notwithstanding the existence of a separate airspace change process, even assuming that a further airspace change consent was necessary after any necessary consents had been granted for full alternation on easterlies.

Westerly preference

455. This is the condition suggested:

> *"There shall be no change to the system of "westerly preference" at Heathrow airport. Aircraft should take off towards the west and arrive from the east, so long as the tailwind for landing aircraft is less than five knots, the runways are dry and there are no strong crosswinds.*
>
> *No later than 28 days after the end of each season, the airport operator shall provide a report to the local planning authority providing details for each month of the number of take offs and landings under westerly operations and easterly operations, with details of wind direction, wind speed and weather conditions."*

456. Again, in drafting the condition, the Authorities sought to reflect properly the existing operations at Heathrow. The reporting requirement is necessary in order to allow for proper monitoring.

457. Mr Fiumicelli's evidence addresses the effects of removing westerly preference.

458. He says:

> *"The modal split sensitivity testing in table G12 of appendix G to the ES shows that without the Cranford agreement increasing the proportion of easterly operations eg by removing westerly preference increases the number of persons exposed to aviation noise above 63dB LAeq, 16 h and causes the*

[434] Ibid p76 para 3.93 3rd bp
[435] Ibid p81 para 3.107

range of increases in noise due to removing the Cranford agreement to expand. This leads the GLA, [Hillingdon] Council and LB Hounslow to seek to maintain westerly preference as a means of balancing the modal splits during easterly operations to minimise the number of persons exposed to higher noise levels with a commensurately greater incidence of annoyance and risk of direct health impacts."[436]

459. It is clear from the noise section above that the noise impact from removing westerly preference would be significant. The cumulative assessment within the ES did not include it, although it would appear from Mr Burgess' evidence that HAL has every intention of implementing the change, but does not wish to do so in advance of implementing the end of the Cranford agreement.[437]

460. Again, had the cumulative assessment been done properly and included the removal of westerly preference, it would have shown an increased and significant adverse noise effect. This is all the more reason to impose a condition now.

Night flights

461. This is the condition suggested:

"No additional movements shall be introduced at Heathrow airport in either the Heathrow night quota period (2330-0600 hours) or the WHO night period (2300-0700 hours). For the former, that limits movements to 2,550 in the airport's Winter season and 3,550 in the airport's Summer season.

No later than 28 days after the end of each season the airport operator shall provide a report to the local planning authority detailing the number of flights per month in the night quota period and WHO night period."

462. As with the previous suggested conditions, the Authorities have sought to reflect properly existing operations at Heathrow.

463. A condition is necessary because although further night flights have not been the subject of assessment within the environmental impact assessment, it is obvious that they will give rise to significant noise impacts around the airport. As we have already noted, HAL has said that it will not proceed with trials of additional night flights for the time being, but the decision has been taken only "until further notice",[438] rather than having been ruled out. It is acknowledged that increasing night flights would bring benefits to Heathrow in the form of increased flexibility and that the executive committee could revisit its decision when it chose to do so.[439]

CONCLUSION

464. For the foregoing reasons, it is respectfully submitted that planning permission should be refused and the appeal dismissed.

[436] Mr Fiumicelli PoE p77 para 7.4.1 3rd bp
[437] Mr Burgess' PoE p26 para 5.2.38
[438] Mr Burgess XX
[439] Mr Burgess XX

THE CASE FOR HEATHROW AIRPORT LIMITED (HAL)[440]

INTRODUCTION

465. The Closing Submissions on behalf of Heathrow Airport Limited are structured so as to address each of the Inspector's main issues[441] under the following headings:

a. Noise;

b. Air Quality;

c. Adequacy of the Environmental Statement;

d. The Health and Equalities Impact Assessment;

e. Cumulative Assessment;

f. The Noise Barrier and Green Belt; and

g. Conditions and Planning Obligations.

466. A summary of Heathrow Airport's current operations, the Cranford Agreement, the background to the ending of that Agreement, and the reasons why the physical works now applied for are needed in order to facilitate full alternation on easterlies are provided in HAL's opening submissions[442]. A summary description of those matters is also included as Appendices to HAL's Closing Submissions[443].

OVERVIEW

467. The Appeal Proposals are unusual in that they are not intended to deliver any additional capacity, or to achieve any significant commercial benefit for HAL as the developer. Whilst HAL's evidence is that there will be some benefit in terms of increased resilience (which is in the public interest)[444], that is not the primary reason for making the application. Nor would it be credible to suggest that HAL is pursuing this appeal, and committing to the very substantial sums of money it has offered for mitigation, in order to realise that relatively modest operational benefit[445]. In XX, DF quite fairly accepted that the implementation of full easterly

[440] The Inspector's view based on the closing submissions of HAL - having regard to the material points made in the Authorities' submissions on disputed matters of fact and law (INQ/65) and HAL's response (INQ/66). The full, unedited, texts of HAL's opening and closing submissions are given at INQ/3 and INQ/64

[441] Identified in the Inspector's Notes Following the Pre-Inquiry Meeting (7 April 2015), section 3, and on Day 1 of the Inquiry.

[442] INQ/3

[443] Appendix A deals with Heathrow's current operations, the effect of the Cranford Agreement and the reasons why the physical works now applied for are needed to facilitate full easterly alternation. Appendix B deals with the background to the ending of the Cranford Agreement.

[444] HAL/MB/P/1, para. 4.4.2 and MB EiC, Day 8.

[445] In the ACS the Authorities do not suggest as much. They refer to HAL's acknowledgment of some operational benefit (paras. 136-137), but that is neither controversial nor in any way inconsistent with HAL's case.

alternation is not for the benefit of HAL, but to achieve a wider public interest objective[446].

468. HAL has taken those steps because the Government has made very clear that this is what it wants HAL to do in order to achieve the public interest objective of "*redistribute[ing] noise more fairly around the airport*"[447]. Thus the Appeal Proposals are intended to implement the Government's decision, so as to bring to an end the current unfair distribution of noise from Heathrow's existing operations on easterlies.

469. In determining that the current absence of alternation on easterlies should be brought to an end, the Government was very well aware both that there would be winners and losers in terms of noise impacts, and of the essential pattern and distribution of those impacts. Nothing material has changed in that respect[448].

470. HAL has identified a package of mitigation and compensation measures that aligns with the Government's up to date and most directly relevant policies, and is fair and proportionate having regard, inter alia, to its existing schemes. Those existing schemes form an important part of the NAP[449], which the SoST approved and adopted as appropriate in 2014[450]. It is perhaps inevitable that there will be calls for more, but this is not a case where a wholesale recasting of Heathrow's approach to mitigation and compensation is justified. Save where its offer is more generous than a strict application of the APF might suggest, HAL's approach has been to provide what the Government has said it expects. That is not only eminently reasonable as a general approach, it is also particularly appropriate when regard is had to the nature of the development that is being proposed here.

471. Against that background, HAL might be forgiven for expecting that LBH would have no difficulty in approaching its decision-making in the positive way required by the NPPF, looking for solutions rather than problems[451]. However, it has only been through the process of XX that the witnesses called on behalf of the Authorities have been willing to acknowledge the following basic but nonetheless crucial points[452]:

a. All of the concerns raised in the RfR relating to the adequacy of the ES are not only capable of being addressed through the Regulation 22[453] process, but in so far as they arise they would have to be addressed by that route.

i. LBH was under a statutory duty to use Regulation 22 to overcome what it perceived as a concern[454], but breached that duty when it resolved instead to use that concern as a reason to refuse planning permission.

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[446] DF XX, Day 1PM (NB: The Authorities state that this concession was made prior to hearing the evidence of Mr Burgess)
[447] CD/01/25, para. 74; see also, Appendix B.
[448] HAL/RTT/P/1, section 8, and paras. 9.1.3 and 9.1.4; and DF XX, Day 1PM
[449] CD/02/06.
[450] Under the provisions of CD/02/01.
[451] CD/1/16, paras. 186 to 187.
[452] The Authorities have no record of such wholesale agreement
[453] CD/01/15.
[454] Regulation 22(1), EIA Regulations CD/01/15

ii. The same duty would now apply to the Inspector and the Secretaries of State, if either were to conclude that more information was needed[455].

iii. The concerns over the adequacy of the ES do not, therefore, constitute a legitimate reason for the refusal of planning permission.

b. All of the concerns raised by the RfR in relation to the adequacy of mitigation are capable of being addressed either by the imposition of suitable conditions, and/or by requiring HAL to enter into a suitable obligation or obligations. In each case it was agreed by the Authorities that if the Secretaries of State regarded HAL's offer as inadequate, the solution lay in one or other of those means, and not the dismissal of the appeal[456].

c. The only other concerns raised in the RfR (Green Belt/visual impact) were not relied upon as a freestanding RfR, because if the other concerns are overcome it is common ground that VSC would exist to justify and outweigh any harm caused by the proposed Noise Barrier[457]. There is no dispute that the Noise Barrier is in an appropriate location, would be in an appropriate form (subject to conditions securing control over detailed design), and should be provided if the operational changes are to be put into effect.

472. Thus, crucially, it can be seen that there is no element of the case presented by the Authorities that, even if their case is accepted in full by the Inspector and Secretaries of State, could properly be said to justify a decision to dismiss the appeal and refuse planning permission. In each case there is a solution, readily available[458]. In that respect, the position of the Authorities actually dissolves into the positive approach adopted by the Royal Borough of Windsor and Maidenhead – broad support subject to adequate mitigation[459].

473. Against that background, there can be no satisfactory explanation for the conclusion that the Authorities now ask the Inspector and Secretary of State to reach. In the ACS it is now said on behalf of the Authorities that "planning permission should be refused and the appeal dismissed". That is not a submission that can properly be made, consistent with the clear and consistent evidence given by the Authorities' witnesses. The highest that their case could legitimately be put is that planning permission should be granted, and the appeal allowed, subject to securing adequate mitigation measures and controls.

NOISE

Introduction

474. The single issue that consumed the most Inquiry time concerned the noise impacts of the Appeal Proposals and the appropriate mitigation[460]. RfR 1 contains

[455] Regulation 22(1), EIA Regulations CD/01/15
[456] See e.g. LF XX, Day 6 PM and AW XX, Day 8 AM
[457] AW XX, Day 8 AM
[458] CD/01/16, para. 203.
[459] Letter from Cllr Bathurst (dated 18 November 2014); and INQ/32.
[460] Reflected now in the fact that 56 of the 120 pages of the ACS are dedicated to this single issue.

essentially two complaints. Firstly, that HAL had failed to demonstrate that the Appeal Proposals would not result in significant adverse noise impacts on the health and wellbeing of residential populations, users of schools and community facilities. Secondly, that the Appeal Proposals fail to provide adequate and sufficient mitigation measures to affected residents, schools and community facilities users to offset the resultant negative noise and associated health and wellbeing impacts.

475. RfR 3 also concerned noise impacts. It alleges that the ES accompanying the Appeal Proposals does not adequately describe the likely significant effects from noise impacts or adequately set out measures to prevent, reduce and where possible offset any significant adverse effect on the environment.

Overview of HAL's evidence on noise

476. RTT's evidence set out HAL's assessment of the likely noise impacts of the Appeal Proposals. It is to be found in his PoE[461], and Chapter 6 of the ES to which that PoE refers, his RPoE[462], and in the extensive oral evidence that he gave to the Inquiry.

477. The effect of the Appeal Proposals will be to remove 10,500 people from the 57dB LAeq 16hr contour at the expense of placing an additional 5,500 people into the 63dB LAeq 16hr contour[463]. Overall, more people will benefit from the Appeal Proposals than will suffer adverse effects. 36,100 people will experience beneficial reductions in noise of greater than or equal to 1dB, with 18,500 experiencing adverse increases of greater than or equal to 1dB and 4,450 experiencing significant adverse effects of greater than or equal to 3dB, where exposure is at least 57dB LAeq, 16hr[464]. No people will experience significant beneficial effects. Although HAL adopted the Laeq, 16 hr metric as its primary assessment, HAL's evidence demonstrates that the results of its assessment do not show material changes in the overall impact of the Appeal Proposals using different metrics[465].

478. RTT's evidence explained that the ES considered a number of assessment metrics and effects and associated significance to changes in these. The assessment metrics considered a number of receptor types. This is summarised in section 6.3 of RTT's PoE, from which it can be seen that there was a wealth of information provided to enable a thorough and rounded understanding of the noise impacts associated with the proposed changes.

479. The ES provided:

a. a primary air noise assessment using the 16 hour LAeq metric, with the results presented in (+ or -) increments of 1dB (A)[466];

b. a secondary assessment using the Lden index, again using increments of 1dB (A)[467];

c. frequency and changes in easterly movements;

[461] HAL/RTT/P/01.
[462] HAL/RTT/RP/01.
[463] HAL/RTT/P/01, p. 46.
[464] HAL/RTT/P/01, p. 46.
[465] HAL/RTT/P/01, para. 7.2.33 onwards.
[466] CD/01/02, paras. 6.7.18 to 6.7.22.
[467] CD/01/02, paras. 6.7.25 to 6.7.29.

d. respite/relief contours and percentages during easterly operations;

e. a calculation of the population "annoyed" and "highly annoyed" with and without easterly alternation[468];

f. sensitivity tests using the range of westerly/easterly modal splits experienced over the last 20 years[469];

g. 8 hour single mode contours[470];

h. a night time noise assessment using the L night index[471];

i. specific assessments were undertaken for education, healthcare, community facilities and places of worship[472];

j. ground noise impacts were assessed using 1dB (A) increments[473]; and

k. combined air and ground noise assessments were undertaken[474].

480. It is notable that despite the fact that RfR 3 alleges a failure adequately to describe the likely significant effects from noise impacts, there was no serious suggestion during the Inquiry that it was necessary to have yet further assessment and/or data using some different noise metric in order properly to understand the likely significant environmental impacts as a result of the changes to the noise environment[475]. Furthermore, even where HAL provided additional information using alternative metrics (including Lden and LAmax), the Authorities have not actually used that information in framing their evidence before the Inquiry[476].

481. Insofar as other metrics were originally sought by LBH, RTT's PoE explains why they are not reasonably required[477], and his evidence on those points was not challenged either by DF's oral evidence or in XX.

482. The changes to the noise environment come about from the introduction of alternation on easterly operations, which results in respite percentages on easterly approaches becoming 50%[478], compared with the current situation whereby relief on the arrivals track to 09L is less than 10%, while under the arrivals track to 09R it is around 95%[479]. Hence the proposals lead to predictable respite under the arrivals tracks.

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[468] CD/01/02, paras. 6.7.30 to 6.7.34.
[469] CD/01/02, paras. 6.7.35 to 6.7.37.
[470] CD/01/02, para 6.7.37.
[471] CD/01/02, para. 6.8.46.
[472] CD/01/02, paras. 6.8.51 to 6.8.63.
[473] CD/01/02, para. 6.9.
[474] CD/01/02, para. 6.10.
[475] The ACS seeks to resurrect reliance on N70 (paras. 370-371), but without any suggestion either that any mitigation should be based on it, or that in its absence the ES is legally inadequate. No regulation 22 request has ever been made in relation to N70, and no questions were put to RTT about its use in XX.
[476] The Authorities dispute this pointing to the PoE of Mr Fiumicelli (Sections 5,6 and 7)
[477] HAL/RTT/P/01, paras. 6.5.3 to 6.5.19.
[478] Subject to the use of TEAM, which has tended to result in arrivals on the alternate runway for approximately 5% of the time.
[479] HAL/RTT/P/01, para. 7.2.12.

483. As a result of the Appeal Proposals: 350 dwellings would become eligible for HAL's proposed residential insulation scheme[480]; 175 dwellings would become eligible for HAL's proposed home relocation assistance scheme[481]; and 10 educational establishments would be eligible for HAL's proposed community buildings insulation scheme[482]. HAL is also proposing a scheme to mitigate noise induced vibration, should this occur[483].

484. HAL's evidence therefore both confirms the findings of Government's own assessment which supported its decision to end the Cranford Agreement[484] and demonstrates that the effects of the Appeal Proposals have been adequately assessed and that adequate and appropriate mitigation is proposed.

Noise policy context

485. The Authorities all relied on various local development plan policies as furthering their cases that mitigation is required beyond that being offered by HAL. That theme is then returned to in the ACS[485]. However, as JR explained[486], during their evidence each planning witness accepted that the policies they relied upon did not add anything to the detailed policies contained within the APF, NPSE and NPPF. Specifically,

a. LF accepted that policy 7.15 of the London Plan was "drafted to accord with" the NPSE and that there were "no material differences" between the London Plan, the NPSE and the APF[487];

b. DC confirmed that the policies in LB Hounslow's UDP were useful only as "background policies" and that they "do not add anything" to the policies in the APF and NPSE[488]; and

c. AW accepted that the development plan policies did not contain the level of detail found in the APF, and confirmed that if the Secretaries of State conclude that the Appeal Proposals accord with the policies in the APF, it was not LBH's case that they should nevertheless refuse planning permission based on local policy[489].

486. Those positions accord with the approach taken by JR to the local development plan policies relied upon by the Authorities, namely, that those policies are not

[480] HAL/RTT/P/01, para. 8.4.3.
[481] HAL/RTT/P/01, para. 8.4.9.
[482] HAL has set out, in a note accompanying its UUs, a table reconciling the various names given and used during the Inquiry and in the relevant documentation to each of the educational establishments eligible for HAL's proposed comity buildings insulation scheme. See also HAL/RTT/P/01, paras. 8.4.14 to 8.4.24.
[483] HAL/RTT/P/01, paras. 8.4.25 to 8.4.26.
[484] CD/02/05
[485] See e.g. paras. 212-231
[486] JR EiC, Day 9PM.
[487] LF XX, Day 6PM.
[488] DC XX, Day 7AM.
[489] AW XX, Day 8AM.

inconsistent with the APF and NPSE and that ultimately, examination of local policies at the Inquiry has "not added a great deal" to the APF and NPSE[490].

487. The APF is the only policy document which sets out detailed policies on when, and at what noise levels, insulation should be offered to mitigate adverse noise impacts. Each of the local policies is at such a level of generality that they do not materially add to the approach set down in the APF. In XX, AW accepted the following important points as being common ground:

a. The APF provides the primary policy source for determining the acceptability of noise impacts from aviation.

b. The APF provides the primary and most detailed guidance to inform the appropriate level of mitigation which should be secured.

c. A great deal of weight should attach to the APF in striking the planning balance and determining the issues in this appeal.

488. In the light of that common ground, the argument advanced in the ACS that JR was wrong to say that the APF has "primacy"[491] is misguided.

489. The approach in the APF of course accords with that in the NPSE and the NPPF, both of which it post-dates. So far as the underlying principles and policy aims are concerned, the documents are (unsurprisingly) entirely aligned and saying the same thing. So far as detail and the application of those principles and policy aims to this specific context are concerned, the Government's view on the correct approach is set out clearly in the APF.

490. Para 3.20 of the APF refers to para 123 of the NPPF, which provides that planning policies and decisions should aim to "*avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development*" and "*mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions".*[492] Both of those sub-paragraphs are accompanied by a footnote referring to the explanatory note accompanying the NPSE[493].

491. The NPSE's Noise Policy Vision is to *"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development"*[494]*.* That Vision is supported by three Noise Policy Aims[495]:

[490] HAL/JR/P/01, paras. 4.23 to 4.33; and JR EiC, Day 9PM. If anything, the submission in the ACS that the policies which require that impacts are "adequately" or "sufficiently" mitigated are "in perfect parallel with the NPPF" just brings one back to the same place. What is 'adequate' or 'sufficient' in this context? The answer to that question is to be found in the APF.
[491] ACS para. 46
[492] CD/01/16
[493] CD/01/16, p. 29, fn. 27.
[494] CD/01/03, p. 3.
[495] CD/01/03, p. 4.

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life.*

492. It is apparent that the first two of those aims are the same as those given in para 123 of the NPPF. Both the NPSE and the NPPF therefore require "*significant adverse impacts on health and quality of life*" to be "*avoided*" and "*adverse impacts on health and quality of life" to be "mitigate[d] and minimise[d]*".

493. The NPSE defines "*adverse impacts*" as "*LOAEL – Lowest Observed Adverse Effect Level*" and "*significant adverse effects*" as "*SOAEL – Significant Observed Adverse Effect Level*". Consequently, between LOAEL and SOAEL, the NPSE requires "*that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development*" (emphasis added)[496].

494. As JR explained in his EiC[497], the principles of sustainable development are engaged in this case, which is directly concerned with environmental improvement and providing equity amongst those affected by noise from the airport[498].

495. The NPSE does not set a value for SOAEL or for LOAEL. Instead, it notes that:

> *"It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available."*[499]

496. The APF reflects the guidance in the NPSE, and in the specific context of aviation noise it states that:

> *"The Government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise, as part of a policy of sharing benefits of noise reduction with industry."*[500]

497. That policy is specifically said to be consistent with the NPSE.[501]

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[496] CD/02/03, pp. 8 and 9.
[497] JR EiC, Day 9 PM
[498] See also HAL/JR/P/01, paras. 4.3 to 4.5.
[499] CD/02/04, para. 2.22.
[500] CD/01/17, para. 3.12.
[501] CD/01/17, para. 3.13.

498. The APF then provides that as a minimum it expects airport operators to offer financial assistance towards acoustic insulation to residential properties experiencing an increase in noise of 3dB or more which leaves them exposed to noise levels of 63dB LAeq, 16h or more.[502] Furthermore, the APF provides that it expects acoustic insulation to be offered to noise-sensitive buildings, such as schools, where they are exposed to noise levels of 63dB LAeq, 16h or more[503]. Where that insulation is not appropriate or cost effective, the APF expects alternative mitigation measures to be offered[504]. It is of relevance to both of those expectations that, as set out below, both RTT and DF agree that in this case, the level of SOAEL is 63dB.

499. It follows that above the level of SOAEL, the NPSE, APF and NPPF require those "*significant adverse effects*" to be "*avoided*". In this respect, the APF expects that where households are exposed to levels of noise of 69dB Laeq, 16h or more, those households should be offered assistance with the costs of moving[505].

500. Below the level of SOAEL, but above LOAEL, they must be "*mitigate[d] and minimise[d]*"[506]. The Examining Authority's Report and the Secretaries of States' decision on the TTT Development Consent Order application confirms that the aims of the NPSE are satisfied by the provision of acoustic insulation at the level of SOAEL (whatever that is determined to be in the particular case), and by other mitigation measures below that level.[507] That is the approach that is being taken here.

501. The Authorities' stance is that this simple point of approach could not be distilled from the TTT decision but as JR confirmed in RX, none of the differences in the particular facts of the two cases go to the point of general principle that HAL takes from it.

502. The relevant aims of the NPSE were of course the same, and reflected in what was said in the Wastewater NPS[508]. The source of the noise was different, but that was relevant only to the identification of the level at which SOAEL occurred, not to the principle that acoustic insulation at that level was effective to meet the NPSE's first aim. Similarly, the fact that the noise would be experienced for in excess of six years does not affect the application of the policy aim, or the point of principle, and nor was that relied on in the Secretary of State's reasoning on this issue in the DL.

Background to the ending of the Cranford Agreement[509]

503. The Government's decision to end the Cranford Agreement in 2009 was taken only after extensive consultation and consideration of the likely effects of taking that

[502] CD/01/17, para. 3.39.
[503] CD/01//17 para. 3.37
[504] CD/01/17, para. 3.37.
[505] CD/01/17, para. 3.36.
[506] CD/02/03, para. 2.24.
[507] CD/01/34, chapter 12; CD/01/35, para. 70; INQ/33; and JR EiC, Day 9PM and Day 10AM
[508] See CD/01/34 p. 202, para. 12.184
[509] Appendix B contains a more generalised summary of the background to the ending of the Cranford Agreement. We note that the ACS now accepts that the background to the decision is relevant (ACS para. 7), which is somewhat ironic given the complete failure of its witnesses to deal with it, and its consequences, in any meaningful way.

step. The consultation began in 2007 when the Government consulted on a series of proposals related to adding capacity at Heathrow in the ACC.[510] That consultation process expressly considered the Cranford Agreement. The Cranford Agreement was explained in detail,[511] and then express consideration was given to the noise impacts of bringing it to an end.[512] Specifically, the ACC recognised that ending the Cranford Agreement while retaining westerly preference would remove:

> *"… the highest number of people from the 57dBA noise contour (10,500) but this is at the expense of increasing the numbers affected at 63dBA or more (by up to 3,300)."* [513]

504. Those impacts were informed by an assessment of noise impacts in the ERCD Report, which we consider further below.[514] The Government's provisional view was then set out, namely:

> "*We believe that ending the Cranford agreement would redistribute noise more fairly around the airport when it is operating on easterlies. Our provisional view therefore is that there would be merit in ending the Cranford agreement, regardless of any other decisions that are taken. However, <u>the main issue</u> that arises from ending the Cranford agreement is whether it is preferable to benefit large numbers of people by removing them from the 57dBA Leq contour, at the expense of exposing smaller numbers of people to increased noise at higher levels*."[515] (emphasis added)

505. The ACC then asked the specific question:

> *"Do you agree or disagree with the Government's proposal to end the Cranford agreement? What are your reasons? Are there any significant considerations you believe need to be taken into account? If so, what are they?"*[516]

506. The 2009 ACD expressly referred to the consultation document having "*invited views on the merits of maintaining or modifying*" practices including the Cranford Agreement[517] before noting that the consultation was "*one of the largest undertaken by the Department [for Transport]*" and had received nearly 70,000 responses, including technical reports submitted by the Authorities taking part in this Inquiry, all of which formed part of the evidence base upon which the decisions in that document were based.[518] The sheer scale of that exercise was accepted by DF in XX.[519]

507. In terms of the assessment of the effects of ending the Cranford Agreement, the 2007 consultation was expressly "*supported*" by the ERCD Report.[520] The ERCD

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[510] CD/01/24.
[511] CD/01/24, paras. 2.12 to 2.13 and 3.129 to 3.131.
[512] CD/01/24, paras. 3.134 to 3.138.
[513] CD/01/24, para. 3.137.
[514] CD/02/05.
[515] CD/01/24, para. 3.144.
[516] CD/01/24, Question 9, p 97.
[517] CD/01/25, para. 11.
[518] CD/01/25, paras. 12 and 13.
[519] DF XX AM, Day 2.
[520] CD/02/05, p. iii.

Report assessed the noise impacts of the various scenarios consulted upon, and its findings were reported in the ACC.

508. As set out above, the ERCD Report identified that ending the Cranford Agreement would remove 10,500 people from the 57dBA noise contour but add up to 3,300 to the 63dBA contour[521]. The SoST was therefore aware of the significant effects that were likely to result from the ending of the Cranford Agreement.

509. DF was at pains during XX and RX to emphasise that the ERCD Report was not a formal EIA and that it had not sought to assess noise impacts. His view was that it had instead simply identified and quantified impacts. However, in explaining the methodology it employs, the ERCD Report clearly notes that different noise levels result in different impacts:

> *"It has become general usage to describe 57, 63 and 69dBA Leq as denoting low, medium and high community annoyance respectively, whilst noting that 57dBA Leq is also taken to describe the onset of significant community annoyance…"*[522]

510. It follows that the ERCD Report identified that ending the Cranford Agreement would remove 10,500 from experiencing "*low community annoyance*" at the expense of exposing 3,300 people to "*medium community annoyance*". It is not therefore correct to characterise the ERCD Report as not having analysed the likely effects. Furthermore, the ERCD Report judged that it was appropriate to make use of the 57dBA noise contour, and the Government evidently felt that such an assessment provided a sound and sufficient basis upon which to make its decision.

511. Notwithstanding his concerns, DF confirmed in XX that although his position was that the decision of the SoST in 2009 to end the Cranford Agreement was taken "*on the basis of an inadequate assessment of noise*" he was not asking the SoST to review that policy decision, and he was not relying on any difference between the broad pattern of impacts identified in the ERCD report and those in the ES.[523] It is therefore not clear as to the significance of DF's concern with the approach ERCD Report nor is it clear what impact it could properly have on the determination of this appeal.

512. The 2009 ACD explained that the SoST had "*considered the responses to the consultation in the light of the analysis in the consultation document*"[524]. That would of course have included consideration of the detailed consultation responses submitted by the Authorities[525]. It continued that:

> *"Ending the Cranford agreement would redistribute noise more fairly around the airport and remove around 10,500 people from the 57dBA contour, albeit at the expense of exposing smaller numbers (around 3,300) to higher levels of noise. In the light of the Secretary of State's decision not to support the implementation of mixed mode and to retain runway alternation, ending the Cranford agreement would also have the benefit of providing periods of respite*

[521] CD/02/05, p. 30, Table 5.2.
[522] CD/02/05, para. 2.1.1.
[523] DF XX, Day 2 AM.
[524] CD/01/25, para. 74.
[525] HAL/JR/A/02.

during the day for all areas affected on both westerly and easterly operations."[526]

513. The ACD recorded the SoST's conclusion as follows:

> *"The Secretary of State has therefore decided in the interests of equity to confirm the provisional view set out in the consultation document. Therefore the operating practice which implements the Cranford agreement should end as soon as practicably possible. He notes that this would also enable runway alternation to be introduced when the airport is operating on easterlies, giving affected communities predictable periods of relief from airport noise." (emphasis added)*[527]

514. The two paragraphs quoted above could not be clearer; the SoST's decision clearly recognises that the current situation, whereby there can be no alternation on easterly operations resulting in persons under the flight paths being constantly overflown, is inequitable, i.e. unfair. The SoST clearly falls into the category of people DF identified in his PoE to whom the ending of the Cranford Agreement "*may appear 'fairer'*"[528].

515. DF accepted in light of the SoST's decision that it was "*quite clear*" that the fairness of redistributing noise around the airport by implementing full alternation on easterlies did not fall to be reargued at this Inquiry.[529] The fairness of the operational changes enabled by the Appeal Proposals is clear to see. The impacts of current operations are plainly illustrated by the figures accompanying the ES. In terms of those affected by easterly arrivals:

a. Figure 6.14 shows a marked disparity of impact on those in Windsor, compared to those under the arrivals path to the southern runway.

b. Figure 6.15, showing easterly arrival tracks with full alternation is very obviously more equitable, with communities under each arrivals track benefiting from 50% relief, and therefore predictable respite according to the alternation schedule.

516. Similarly, to the east of the airport, Figure 6.16 shows a manifestly lopsided distribution of easterly departures. Figure 6.17 graphically illustrates how the Appeal Proposals will result in a more equitable distribution of easterly departures.

517. Furthermore, the SoST was clear in 2009 that the operating practice implementing the Cranford Agreement – namely, not operating full runway alternation on easterly operations – and the resultant unfairness, should end "*as soon as practicably possible*".[530] That exhortation was repeated more recently by the AC in its Interim Report, where it recommended that:

[526] CD/01/25, para. 74.
[527] CD/01/25, para. 75.
[528] HIL/DF/P/2, paras. 7.1.8 and 7.1.9.
[529] DF XX, Day 2AM.
[530] CD/01/25, para. 75.

"Runway alternation should be enabled as rapidly as possible for easterly operations. This will provide respite for those, particularly in Windsor, who do not currently benefit from alternation."[531]

518. The APF in 2013 further confirmed the ending of the Cranford Agreement, noting that:

"Following implementation, noise will be distributed more fairly around the airport, extending the benefits of runway alternation to communities under the flight paths during periods of easterly winds, and delivering operational benefits by letting the airport operate consistently whether there are easterly or westerly winds."[532]

Noise impacts of the Appeal Proposals

519. The RfR are identical to those recommended by the LPA's Committee Report[533]. The reasoning in that Committee Report therefore led to and underpinned the RfR against which HAL now appeals.

520. It is notable therefore that DF, who was jointly instructed by all the Authorities to provide their noise evidence to the Inquiry, expressly accepted in XX that his evidence did not support, or endorse, the approach taken towards noise in that Committee Report. Importantly, DF's evidence also did not support either the mitigation measures said to be needed, or even the metrics upon which those measures were based.

a. The Committee Report appraised the application on the basis that:

i. 55 Lden should be utilised, together with LAeq 1 hour and LA max, to form the primary assessment[534]; and that

ii. any persons experiencing an increase of 1 dB and also within the 55 Lden contour should be offered noise insulation[535].

b. DF confirmed he had not used Lden 55dB as his primary assessment, and did not treat an impact of +1dB at 55Lden as being significant[536]. He also confirmed that he did not suggest the use of a 1 hour LAeq in his PoE, either as a basis for primary assessment or for determining mitigation. Similarly, it was confirmed that his PoE did not suggest the use of LAmax as a primary assessment. He accepted that his evidence did not therefore support the LPA's position on which the decision had been made.

c. DT's evidence suggested a mitigation package based exclusively on the use of LAeq 8 hour contours[537]. No such suggestion was made at the time of

[531] CD/01/26, para. 5.44.
[532] CD/01/17, para. 1.63.
[533] CD/01/03
[534] CD/01/03, p. 85.
[535] CD/01/03, p. 86.
[536] HIL/DF/P/1, p. 59, para. 5.6.9.
[537] HIL/DF/P/1, para. 7.1.19. HAL notes that in the SOUG submitted on behalf of the Authorities, they have sought to resurrect the earlier request for mitigation based on the 16hr

the decision. Furthermore, the letter sent on behalf of the Authorities on 28 April 2014 only suggested a mitigation package based on the use of a 16 hour LAeq[538]. (Inspector's note: the Authorities take issue with this point as being factually incorrect. For clarity, the letter actually says "*Notwithstanding the local authorities [sic] position in regard to the use of alternative metrics, if HAL's preferred use of LAeq, 16hr, is to be assumed, the local authorities consider the following thresholds for mitigation should ensure full mitigation and compensation for the harm caused by the development proposal*.")

521. DF was not involved with the determination of the application[539]. It therefore formed no part of the Authorities' evidence (nor the LPA's evidence individually) that the analysis and reasoning in the Committee Report should be upheld at this Inquiry.

522. There has been no material change in the noise impacts of the Appeal Proposals from when the SoST decided to end the Cranford Agreement in 2009. The issue therefore should not be about the assessment of noise impacts, but rather their mitigation. DF accepted in XX that the Government knew that significant adverse noise effects were likely to occur pre-mitigation when it decided to end the Cranford Agreement. He also accepted that:

a. the fact that the ES also identifies such effects cannot in itself be a valid RfR;

b. the only real issue is whether HAL's mitigation proposals are adequate; and that

c. issues over measures of impact that do not ultimately lead to suggested mitigation measures are not capable of leading to a different decision in principle[540].

523. Nonetheless, the Authorities took issue with HAL's noise assessment in their evidence and now at length in the ACS. This is addressed below.

The use of the 57dB LAeq 16hr metric

524. The use of metrics, and the debate over which metric is appropriate, or the most appropriate, has relevance not only to the assessment and identification of significant effects, but also to the provision of mitigation. To avoid repetition, the issue of metrics is considered under this heading and not repeated under mitigation. However, given DF's acceptance that the main issue before this Inquiry is whether the mitigation proposed is adequate, only metrics that go to mitigation can be capable of leading to a different decision in principle.

525. It follows that despite the Authorities including no less than seven "appropriate metrics" in their SOUG[541], there are only two metrics falling for detailed consideration:

LAeq metric, but that is not the case that DF sought to promote through his evidence to the Inquiry.

[538] INQ10, pp. 70 and 71.

[539] Thus the LPA evidently did not find it necessary to seek experienced specialist advice before making its decision (see ACS para. 265).

[540] DF XX, Day 1PM

a. LAeq 16hr, which HAL uses as the basis for its mitigation proposals; and

b. LAeq 8hr, which DF uses as the basis for his mitigation proposals on behalf of the Authorities.

526. In the light of DF's clear written and oral evidence as to what he was saying the residential mitigation package should be based upon, HAL does not understand how the Authorities can now submit that their suggested mitigation for residential properties is based on 54dB LAeq, 16 hr, rather than an LAeq, 8 hr[542]. That was not the mitigation that DF suggested in his evidence. The only attempt to link that submission to DF's evidence to the Inquiry is at paragraph 366 of the ACS, where reference is made in footnote 335 to Table 5.1 on page 56 of DF's proof of evidence. However, Table 5.1 simply identifies what DF said were LOAEL, SOAEL and UAEL. It does not contain his evidence about what mitigation is needed to make the impact on residential properties acceptable. His evidence on that issue is clearly set out at pages 71 to 72 of his PoE, and is based solely on LAeq, 8 hr. He confirmed this in XX.

527. HAL's assessment of the likely impacts of the Appeal Proposals takes the 57dB LAeq 16hr contour as representing the approximate onset of significant community annoyance from noise.

528. Through the APF, the Government has taken a clear policy position on this issue:

> *"We will continue to treat the 57dB LAeq 16 hour contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance."*

529. This was not a policy decision that was taken lightly, or in ignorance of the degree of controversy surrounding the approach. The Draft APF recognised that "*many stakeholders in their response to the scoping document argued that people were now more sensitive to aircraft noise and that a 57 dB LAeq,16h threshold was too high*".[543] It also acknowledged that there was research, specifically the ANASE Report, suggesting that people may now be relatively more sensitive to aircraft noise than previously. However, notwithstanding that research, the Draft APF continued that:

> *"… there is insufficient evidence to indicate a clear threshold noise level at which it can be said with any certainty that there is an "'onset of significant community annoyance'"*

and

> "*As there is no conclusive evidence on which to base a new level, for the present time we are minded to retain the 57 dB LAeq,16h contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance."* [544](emphasis added)

[541] Noise SOUG, p. 6.
[542] ACS para. 429.
[543] CD/01/31, para. 4.26.
[544] CD/01/31, paras. 4.26 and 4.27.

530. The Draft APF then sought views on whether the Government should retain the 57dB LAeq, 16hr contour for this purpose. The Mayor responded to that consultation expressing the view that it should not, and that a new noise metric should be developed[545]. The summary of responses to the Draft APF recognised that this was the most commonly answered question.[546] Having had regard to all of those matters, including of course the Mayor's response, the Government decided to continue to use the 57dB LAeq, 16hr contour for that purpose on the basis that:

> *"Although there is some evidence that people's sensitivity to aircraft noise appears to have increased in recent years, there are still large uncertainties around the precise change in relationship between annoyance and the exposure to aircraft noise."*[547] *(emphasis added)*

531. It follows that in preparing the APF, the Government considered arguments advanced that 57dBA was too high a level, that more recent research suggests people have greater sensitivities than in the past and that effects are experienced below the 57dBA noise contour. Having considered those arguments, it decided to retain the 57dBA threshold as policy in the final APF. As DF agreed, it is apparent from the Summary of Responses that the Government recognised that this was a hard issue, but decided that it was appropriate to adopt a policy position on this matter, having regard to all that had been said by consultees[548].

532. Furthermore, not only did the Government not have any conclusive evidence on which to base a new level, but it is the LAeq 16hr metric that links back to dose response evidence so as to allow a judgment to be made as to the level at which people become annoyed. DF himself made reference to the "*substantial body of international research which uses and corroborates the use of the LAeq to assess aviation noise*".[549] That evidence simply does not exist for the LAeq, 8hr metric.[550]

533. The importance of having a clear and consistent Government policy position on this matter cannot be overstated. The Foreword to the APF acknowledges that:

> *"History shows that we need an agreed policy everyone can stick to before we try to act. Our aim is to achieve this through the Aviation Policy Framework and the work of the independent Airports Commission. While the Commission is considering the need for and location of any new airport to relieve the South East, I set out here a policy framework to support and challenge our airports right across the UK…"*[551] *(emphasis added)*

534. The purpose of the APF is agreed to be to guide decision making and ensure predictability and consistency in decision making by setting out "*agreed policies everyone can stick to*"[552]. In XX of DF, the following matters were also agreed as common ground in this respect:

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[545] HAL/JR/A/03, section 4.1 and section 4.5, paras. 91 to 99.
[546] CD/01/32, p. 37
[547] CD/01/17, para. 3.14.
[548] DF XX, Day 1PM; and see CD/01/32 paras. 23 to 24
[549] CD/01/36, p. 6.
[550] RTT in answer to an Inspector's Question, Day 4.
[551] CD/01/17, p. 5.
[552] XX DF, Day 1PM.

a. The APF makes clear how important it is that the aviation industry has confidence that the policy framework is sufficiently stable to underpin long term planning and investment in aircraft and infrastructure[553], and this is important not only for applicants for planning permission but also for the public interest.

b. Having a policy saves time and expense and reduces uncertainty because it is not necessary to debate the right approach each time a decision falls to be made.

c. In the airport context, that is important because disputes about methodology and approach in assessing noise and deciding on appropriate mitigation have been very controversial and have taken up considerable amounts of time in public inquiries. The Government would have been very aware of all that when putting together the APF.

535. The APF's use of the 57dB LAeq 16 hr contour is one of the policies that should be stuck to for those reasons.[554]

536. However, DF's evidence did not reference the background to the Government's policy decision, or to the advantages and benefits of the metric chosen. In AW's evidence, reliance was placed upon paragraph 3.18 of the APF and what it says about keeping "*our policy under review in the light of any new emerging evidence*"[555]. The same point is now relied upon in the ACS[556], which invites the Inspector and the Secretary of State to conclude that the Government's policy is "out of date" in this respect[557]. That is to misunderstand both the APF and the nature of the policy-making process.

a. It is clear from paragraph 3.18 of the APF that there is a Government policy on this matter, and therefore it is not an issue where the approach falls to be determined from first principles on a case by case basis. AW accepted this in XX[558].

b. Policy review is a separate process from decision-making. A section 78 appeal is not a suitable forum for a review of whether Government policy is appropriate. AW accepted in XX that any policy review process could not be undertaken by means of a section 78 appeal, as this was concerned with decision-making and not policy-making[559]. Reviews of Government policy follow their own distinct process, and unless and until Government policy is changed, it falls to be applied. That much is apparent from paragraph 5.4 of the APF, which explains that:

> *"We will keep our policies under review and refresh them as needed: for example if there are major changes in the evidence supporting our*

[553] CD/01/17 p. 9, para. 5
[554] JR EiC, Day 9PM.
[555] CD/01/17, para. 6.30.
[556] See paras. 289 et seq.
[557] ACS para. 351
[558] AW XX, Day 8 AM
[559] AW XX, Day 8 AM

policy objectives or in external circumstances. Any major changes will be subject to public consultation."

The ACS makes no reference to that clear statement in the APF, not does it attempt to grapple with its implications.

c. No review has been initiated by the Government; there have been no "*major changes in the evidence*". In XX AW confirmed that he could not point to any Government decision to review its policy. HAL is therefore entitled to expect that the Government will apply its policy as clearly articulated in the APF.

537. The arguments advanced by the Authorities, through DF and then in the ACS, to suggest that the 57dBA level is no longer appropriate are simply insufficient to cast doubt on the Government's decision to retain that level as marking the approximate onset of significant community annoyance. The Government was clear in its summary of responses to the Draft APF that:

"The Government recognises that the lack of conclusive evidence on community responses to aircraft noise makes this a difficult area on which to make policy. It is clear that there is no consensus on the best way to measure the noise impacts of aviation."[560]

538. It remains the case that there is no consensus on these issues. In seeking to identify matters which might constitute a "*major change*" in the evidence, justifying a departure from the Government's stated policy, DF relied solely on the findings of the NNAS published in 2014.[561] This was said to support his view that the evidence on community responses had in fact changed such that the Government should now feel able to conclude with confidence that the 57dB threshold was no longer appropriate, as people were annoyed by lower levels of noise. On that basis he invites the Secretaries of State to adopt a new lower level of "*around 53 to 54 dB LAeq 16h*" as marking the approximate onset of significant community annoyance[562]. In their SOUG, the Authorities have revised this to a flat 54dB LAeq 16hr level[563].

539. That position is not one that the evidence can properly support. As RTT explained[564], the NNAS falls far short of the "conclusive evidence" that the Government considered would be needed to justify a change of policy[565], and which was lacking, when it formulated the APF. Similarly, the NNAS falls far short of being the "*major change in the evidence supporting [the APF's] policy objectives*" that would require a policy "*refresh*"[566]. For instance, and crucially, the NNAS did not consider dose responses and as DF admitted in XX, there is simply no way of knowing if respondents who indicated increased annoyance were in fact exposed to increased levels of noise[567]. No specific level of noise is identified in the NNAS as

[560] CD/01/32, para. 24.
[561] CD/02/13.
[562] HIL/DF/P/2, para. 5.5.16.
[563] Noise SOUG, p. 7.
[564] RTT XX, Day 3 PM
[565] CD/01/32, para. 24.
[566] CD/0117, para. 5.4
[567] DF XX, Day 2 AM

being significant as a threshold, and nor is any indication given as to the degree to which people may have become more sensitive to noise. The NNAS in that sense is not comparable to either ANIS or ANASE in its approach, methodology, purpose or level of detail. Furthermore, as RTT also explained, there were significant changes in the survey composition compared to the previous NNAS which could well have materially affected the answers given to the relevant questions[568].

540. It follows that the evidence provided by NNAS of a shift in attitudes to noise is simply insufficient to support the conclusions that DF invites the Secretaries of State to reach, namely to reduce the threshold for the onset of significant community annoyance to 53/54dB LAeq.

541. DF's preferred metric was LAeq 8hr. This, of course, is also an averaging metric. However, DF considered that the 8hr measure better reflected the operation of runway alternation at Heathrow. He drew attention to the criticisms made by the T5 Inspector of the 16 hr measure (as does the ACS), but neglected to point out that notwithstanding those concerns, and having considered the alternatives including the LAeq, 8 hour[569] the T5 Inspector went on to conclude that:

> *"In the light of all these factors, my starting point is the effect Terminal 5 would have on the areas enclosed by the relevant LAeq 16 hour contours"*[570]

and to set the noise limit condition for the airport using that same metric. The APF, which substantially postdates and would have been informed by the T5 decision, provides further clarity – if any were needed – that the Government considers that the LAeq 16 hr metric is appropriate.

542. The ES, of course, contained results using the 8hr metric.[571] If the LPA were of the view that it was appropriate to assess the application on the basis of that metric, they therefore had all of the information they required to make that determination. However, as RTT explained, the 8hr metric has a number of drawbacks.

a. Firstly, it is not linked to *any* evidence of dose-response relationships, and therefore lacks sufficient scientific underpinning to use it as a means of determining the likely community response to any particular level of noise. That is reflected in what is said in the CAA's guidance in CAP 1165[572].

b. Secondly, it fails to reflect the overall experience of noise at any given receptor as it includes only periods when that receptor is being overflown. Given that the authorities all accept the importance of respite, adopting a metric such as LAeq 8hr which leaves out of account that respite period, cannot be appropriate as it simply does not reflect the overall picture of aircraft noise exposure in the same way that LAeq 16hr does.

c. Similarly, there will be locations that will be overflown for only around 12% of the time; for 88% of the time they would not be overflown. In that respect, it is noticeable that neither DF nor the LPA drew any attention to what

[568] RTT EiC, Day 3AM; CD/02/13, Appendix V2.2.
[569] CD/02/16 p. 355, para. 21.3.38.
[570] CD/02/16 p. 356, para. 21.3.40.
[571] HAL/RTT/P/01, para. 6.4.5.
[572] CD/02/12, p. 23

an 8hr contour would show during a period of respite. A measure of significance which does not reflect the experience for 88% of the time would not be in any way balanced or representative of the totality of the experience. Given that these Appeal Proposals are promoted in the interests of fairness that would be inappropriate.

d. Thirdly, as DF accepted in XX use of the LAeq 8hr metric requires a number of comparisons to be made, none of which could be ignored for the purposes of assessment[573]. RTT explained that this was needed before any picture of the overall noise experience can be discerned. RTT suggested that the following comparisons would be appropriate in assessing the change from current operations to operating with full easterly alternation[574]:

i. easterly departures on 09L vs easterly departures on 09R;

ii. easterly departures on 09L vs easterly departures on 09L (on the few occasions when they have taken place in the past);

iii. easterly departures on 09L vs westerly arrivals on 27R; and

iv. easterly departures on 09L vs westerly arrivals on 27L.

e. DF accepted in XX that the most frequently occurring scenarios would be those that are most important to consider in that comparison assessment. However, once all of those comparisons are taken into account and given appropriate weighting, as RTT explained, one ends up in a position which is very similar to that arrived at using the LAeq 16hr metric (albeit without the scientific underpinning of evidence of dose-response relationships which exists for the LAeq 16hr metric). Had the Government considered it to be appropriate to undertake such a convoluted comparison exercise using different weightings of 8hr LAeq contours for the country's largest and most important airport, it would no doubt have made that clear in the APF, together with some sort of empirical justification for doing so. It did not. Instead, it chose to retain the use of the LAeq 16hr metric.

f. In this respect, it is notable that in his submission in response to the AC's Draft Appraisal Framework, DF himself recommended the use of LAeq 16hr as a measure of annoyance, and only recommended the use of 8hr for night periods[575].

g. Fourthly, the result of DF's adoption of his preferred 8hr time period is to divorce the metric from the triggers for insulation and compensation in the APF, which are based on the LAeq 16 hr metric.

h. It follows that use of the 8hr metric also divorces the metric from SOAEL. The TTT decision makes it clear that SOAEL is aligned with established noise insulation thresholds (which for aircraft noise use the 16hr metric). Although DF purports to identify a SOAEL using the 8hr metric[576], there is in

[573] DF XX, Day 2 PM
[574] RTT EiC, Day 3AM; and HAL/RTT/R/1, para. 4.1.17.
[575] CD/01/36, p. 10, Table 1, first row.
[576] HIL/DF/P/2, p. 56, Table 5.1

fact no guidance, policy or precedent expressing SOAEL in terms of LAeq 8hr (with the exception of the night period, 23:00 to 07:00). It is simply not correct for the Authorities to suggest in the ACS that HAL agreed with DF's views on what constitutes SOAEL using other metrics[577]. No reference is given in support of that submission.

i. Appeals to the uniqueness of Heathrow and its system of runway alternation can go nowhere; the Government was clearly aware of the situation at Heathrow when it promulgated the APF (not least because it was identified as an issue by the T5 Inspector in his criticisms of the use of the LAeq, 16hr metric, and the APF itself refers to the ending of the Cranford Agreement) yet it chose not to make separate provision for Heathrow.

543. For all those reasons the LAeq 16hr metric is therefore the appropriate metric to use for the primary assessment of the noise impacts of the Appeal Proposals, their significance and the mitigation required.

544. The ACS seeks to suggest that the decision to use the LAeq 16hr metric in the ES was unexplained and unjustified[578]. It overlooks the fact that the APF, which ended the previous uncertainty over the Government's policy position on this issue (which began with the publication in March 2011 of *Developing a sustainable framework for UK aviation: scoping document*, declaring the ATWP to be fundamentally out of date), was finalised only shortly before the ES was finalised. Before then there had been a period of policy uncertainty because the Government was consulting on what policy it ought to adopt.

545. Before moving on it is however necessary to briefly consider the Lden metric. As RTT explains, Lden is a composite metric, combining the Lday, Levening and Lnight values, adding 5dB to Levening and 10dB to Lnight. HAL makes the following points in respect of Lden:

a. Neither HAL nor the Authorities are advancing mitigation proposals in this appeal, or a primary assessment, based on the Lden metric. It is therefore unclear to HAL why the Authorities have included it in their SOUG as an "*appropriate metric*" for annoyance[579].

b. The APF does not use Lden to identify either the approximate onset of community annoyance or the appropriate level for the provision of mitigation or compensation.

546. It follows that Lden is of limited utility for the purposes of determining the Appeal Proposals. However, as RTT explained, HAL agreed to use Lden as a secondary assessment in the ES (following the formal scoping exercise). HAL provided an assessment using Lden to allow an assessment to be made using that metric in the event that the decision maker found it a useful or helpful metric.

547. The assessment using the Lden metric is properly to be considered as secondary to the LAeq 16 hour assessment, and has consistently been treated as such in the ES

[577] ACS para. 269
[578] ACS para. 314
[579] Noise SOUG, p. 6

and in HAL's evidence[580]. As RTT made clear in RX[581], the former does not have the same policy status and significance for the purposes of decision-making in cases such as this, and nor does it benefit from being accompanied by associated Government policy on what is required by way of insulation and assistance with the costs of moving. That, he explained, was to be contrasted with the approach taken to the production of the NAP, where there was a legal obligation for it to be prepared by reference to Lden.

548. HAL's use of Lden as the basis of its mitigation offer for R3[582] is simply a reflection and acknowledgment of the fact that the APF specifically contemplates that nationally significant airport development projects (which R3 would undoubtedly be) would need to consider "*tailored compensation schemes*"[583]. HAL's R3 mitigation proposals are simply that; schemes tailored to the specifics of the R3 proposals. For reasons we go on to set out below, the Appeal Proposals are of a different scale, magnitude and purpose to R3, and consequently a different approach should be applied to the mitigation that is appropriate for the Appeal Proposals; namely, the mitigation expected by the APF[584].

The relevance of a +3dB change in noise exposure

549. As explained in RTT's evidence[585], and in the ES[586], in line with common practice in ESs[587] HAL has used a change of 3dB or more in noise levels to identify significant changes in noise exposure. Changes below 3dB are considered not to be significant in EIA terms.

550. There is a clear link in paragraph 3.39 of the APF between the requirement to offer financial assistance towards acoustic insulation in order to mitigate noise impacts on residential properties, and a +3dBA increase in noise exposure.

551. DF apparently accepts that a +3dBA increase is appropriate for lower levels of noise exposure but considers that a +1dB increase was more appropriate for higher levels of noise[588]. However, there is no policy support for requiring only a +1dBA increase. As RTT explained in oral evidence, and as set out in the ES[589], if two different noise environments differ by 1dB on the LAeq 16h index, there is a 20% probability that a social survey would show no change in annoyance between those environments. That percentage reduces to 12% when there is a 3dBA difference between those environments. RTT considered that, in his judgment, that

[580] In our notes of RTT's XX, we do not find any clear acceptance that in this case that the LAeq and Lden assessments should be treated other than as primary and secondary (as suggested at ACS para. 332). We are content for the Inspector to check and rely on his own note of exactly what was said, and in what context, but one way or another it makes no practical difference as the effects are assessed using both metrics and nothing turns on it for the purposes of deciding what mitigation should be provided.
[581] RX, Day 4
[582] CD/02/11.
[583] CD/01/17, para. 3.40.
[584] CD/01/17, paras. 3.36 to 3.39.
[585] HAL/RTT/P/1, paras. 6.3.4 to 6.3.6.
[586] CD/01/02, paras. 6.7.4 to 6.710.
[587] CD/01/02, para. 6.7.8
[588] HIL/DF/P/2, section 5.6 and para. 5.6.9 in particular.
[589] CD/01/02, para. 6.7.7.

percentage was sufficiently low to justify the requirement of a 3dBA increase. As RTT explained, the 3dBA requirement is a statistical measure that ensures that when a change is being made to an existing noise climate, changes in noise are in fact referable back to the development.

The metrics considered in the Environmental Statement

552. Notwithstanding that HAL considers the 57dB LAeq 16hr metric to be the appropriate primary metric for assessing the noise impacts of the Appeal Proposals, in line with the approach in paragraph 3.19 of the APF, in order to assist in providing a better understanding of noise impacts and targeted mitigation measures, the ES also considered the noise impacts of the Appeal Proposals with regard to a number of different noise metrics, including Lden, Lnight, LAmax, respite percentages and movements.[590]

553. Consequently, if the decision was taken that Lden was more appropriate, the ES contained all the information that could have been required as it adopted Lden as a secondary assessment. However, as considered below, the LPA was not itself not advancing an argument that mitigation should be based on Lden, instead preferring the LAeq 8hr metric for those purposes[591].

Mitigation

554. DF accepted that the impacts identified in the ES are not significantly different to those previously identified in the ERCD Report. Against that background, DF helpfully confirmed during XX that, given the SoST's decision to end the Cranford Agreement, and the evidence base supporting that decision, it would not have been appropriate for the LPA to refuse planning permission simply on the basis that the Appeal Proposals would expose certain numbers of people to higher levels of noise. Instead, DF confirmed that permission could only have been refused on the basis that the mitigation proposed was inadequate, but also accepted that given different mitigation could have been secured by way of condition or sought by way of obligation, planning permission in fact should have been granted.[592]

555. In determining the adequacy of mitigation it is necessary to have regard to a number of considerations. The APF itself recognises that:

> *"The acceptability of any growth in aviation depends to a large extent on the industry tackling its noise impact. The Government accepts, however, that it is neither reasonable nor realistic for such actions to impose unlimited costs on industry. Instead, efforts should be proportionate to the extent of the noise problem and numbers of people affected."*[593]

556. Similarly, in answer to the question "*Can noise override other planning concerns?*", the PPG answers:

[590] CD/01/02, Appendix G; HAL/RTT/P/01, paras. 6.2.15 and 7.2.33 onwards.
[591] Even in the latest iteration of the Authorities' case on what it seeks for residential insulation, the case is based on LAeq, 16 hr and not Lden (ACS para. 429)
[592] DF XX, Day 2AM.
[593] CD/01/17, para. 3.24.

> *"It can, but neither the Noise Policy Statement for England nor the National Planning Policy Framework (which reflects the Noise Policy Statement) expects noise to be considered in isolation, separately from the economic, social and other environmental dimensions of proposed development."*[594]

557. In XX, DF accepted that this would involve considering who should be given priority, what is fair to all involved, reasonable and proportionate.

558. Furthermore, it is clear from the NPPF that where mitigation is sought by way of condition it must be, among other things, necessary, relevant to planning and to the development to be permitted and reasonable in all other respects. Similarly, if mitigation is sought through a planning obligation, it must be necessary to make the development acceptable in planning terms, directly related to the development permitted; and fairly and reasonably related in scale and kind to the development.[595]

559. DF accepted in XX that:

a. any scheme could only be insisted upon if it satisfied all of the criteria in para. 204 of the NPPF; and that

b. a balance needs to be struck having regard to the nature and scale of the particular proposal.

560. It follows that it is necessary to consider the noise impacts of the Appeal Proposals in the context of what they are designed to deliver. Similarly, a decision on what mitigation measures are appropriate cannot sensibly be taken without consideration of the nature of the development for which permission is sought.

561. The Appeal Proposals deliver no additional capacity. While they would serve to improve operational resilience at the airport to some extent, the primary purpose for which the Appeal Proposals are promoted is the achievement of the established public interest objective of introducing predictable periods of respite on easterly operations. Indeed, in that sense, the Appeal Proposals are both a mitigation measure in themselves, and also one whose impacts may require mitigating.

562. It is against that background of the public interest objective underlying the Appeal Proposals that the appropriateness of any mitigation offer must be assessed. DF accepted that proposition in XX.[596] There is a spectrum of possibilities. As DF acknowledged in XX:

a. At one end of the spectrum there would be a nationally significant airport development[597], such as R3 - the APF recognises that in that context of

[594] INQ/8.
[595] CD/01/16, paras. 204 and 206.
[596] DF XX, Day 2AM.
[597] I.e. airport development on a scale that would require 'development consent' pursuant to the separate statutory scheme for nationally significant infrastructure projects created by the Planning Act 2008. In the case of alteration of an existing airport, such a development requires development consent if its effect is to increase the capacity of the airport by at least 10 millions passengers per year, or at least 10,000 cargo ATMs (see sections 14(1)(i) and 23(1), (4) and (5) of that Act).

"tailored compensation schemes" would be appropriate, rather than necessarily following the levels set out in paragraphs 3.36 to 3.39.[598]

b. The reasonableness and proportionality of such "tailored" compensation schemes would of course fall to be assessed in the context of a development proposal delivering considerable extra capacity and associated commercial benefits. Similarly, the scale and extent of the resulting change to the overall noise impacts associated with the airport would also be an important factor in that assessment. Such a substantial change to both sides of the equation (economic/commercial benefits and adverse environmental effects) would, as JR explained in his oral evidence, call for a re-evaluation of the way in which the operator addresses mitigation and compensation for noise effects[599]. It is therefore not surprising that the APF expects such developments to consider tailored mitigation.

c. At the other end of the spectrum would be a proposal which created no additional capacity, and was instead intended mainly to provide mitigation for the effects of existing consented operations (and some additional resilience). In XX, DF accepted that as a fair summary of what is proposed here[600]. Moreover, it is a proposal which will only involve change to the existing operational procedures for a minority of the time, i.e. when the airport is operating on easterlies.

d. In those circumstances there is no obvious justification for doing anything other than applying the Government's policy in the APF as it is stated[601]. A different approach is set out in the APF both for 'steady state' and for changes which fall short of national significance. In those circumstances the APF provides clear and unambiguous guidance on what the Government expects operators to provide. The application of that guidance ensures that appropriate and proportionate mitigation and compensation is provided in order to address the effects of the proposed development. Thus it is correct that it is no part of HAL's case that the mitigation it offers is inadequate to address the scheme's effects[602]. The mitigation is more than adequate, and it fully accords with clear and directly applicable Government policy.

e. In XX, AW made plain that the LPA is not suggesting that HAL should be adopting a different approach to its current offers of insulation and assistance for those who are already affected by the airport's existing operations. Instead, the LPA's suggestions would only apply to those adversely affected by the proposed change in operations. The LPA's approach would of course create its own significant problems of inequity (i.e. unfairness) in that significantly different conditions would apply to the availability of mitigation in the form of insulation etc. in different locations around the airport, even though the noise environment in those locations was not materially different. Furthermore, given that there would be no material difference in the noise environment, the boundaries of eligibility for those different mitigation measures would be

[598] CD/01/17, para. 3.40.
[599] JR EiC, Day 9 PM
[600] DF XX, Day 2 AM
[601] CD/01/17, paras. 3.36 to 3.39.
[602] ACS para. 206

entirely artificial. However, notwithstanding those concerns, AW's answer was significant because it necessarily recognised that it would be disproportionate and unreasonable to require HAL to make substantial changes to its overall approach to the offer of insulation for those affected by noise from the airport, as the price for obtaining the planning permission needed to implement full runway alternation on easterlies.

f. The resulting unfairness is said by the Authorities to be "*a matter for HAL to resolve*"[603]. On the contrary, it is an important matter that needs to be addressed by the decision-maker in order to determine whether in the circumstances of this case HAL's offer is appropriate, or whether it should be required to offer more than it has, which in some respects already goes further than is required by the APF.

563. The APF expressly contemplates the following noise insulation and compensation schemes:

a. Assistance with the costs of moving for households exposed to noise of 69dB LAeq 16 hr or more;

b. The offering of acoustic insulation to noise-sensitive buildings, such as schools and hospitals, exposed to levels of noise of 63dB LAeq 16hr or more, or alternative mitigation measures where acoustic insulation cannot provide an appropriate or cost effective solution; and

c. As a minimum, the offer of financial assistance towards acoustic insulation to residential properties which experience an increase in noise of 3dB or more which leaves them exposed to levels of noise of at least 63dB LAeq, 16hr, or more.

The Government has therefore clearly chosen to link the provision of mitigation and compensation with the use of the LAeq 16hr metric.

564. It is important to note that of the three APF mitigation and compensation policies set out above, the requirement to provide assistance with the costs of moving for homes exposed to noise of 69dB LAeq 16hr is not expressed in the APF as being a "*minimum*". Neither is the requirement to provide acoustic insulation to noise sensitive buildings; instead, the proviso is that such insulation must be "*cost effective*". What is said in paragraph 258 of the ACS seeks to rob the Government's decision to use the phrase "as a minimum" only in relation to what is addressed in paragraph 3.39 of any effect and meaning.

565. It is therefore clear that the Government's own policy anticipates that there will be circumstances where communities are exposed to significant increases in noise between 57dBA and 63dBA LAeq 16hr, and where no financial assistance towards acoustic insulation need be offered. Notwithstanding that the Government's policy is to treat 57dB LAeq 16hr as the average onset of significant community annoyance, the Government did not consider that to be an unacceptable level of noise exposure without the offer of acoustic insulation; if it had done, it would no doubt have introduced a policy requirement for an offer of financial assistance towards such insulation (or some other mitigation such as ventilation) below 63dBA.

[603] ACS para. 433

566. HAL's offers of mitigation for the Appeal Proposals are compliant with the Government's expectations for such schemes as set out in the APF, and actually go further than the minimum that the APF policies require for residential properties in that, while the APF requires only "financial assistance" towards acoustic insulation for homes exposed to at least 63dBA as a result of a 3dBA increase, HAL is offering to meet the full cost of such insulation. Similarly, HAL has gone further than the APF requires in relation to schools, in that it has offered to provide acoustic insulation to one school falling outside of the 63dBA contour. JR's evidence explains how HAL has had regard, in accordance with paragraph 3.19 of the APF, to alternative metrics to inform the development of its proposed noise mitigation measures[604]. The offer that has been made therefore reflects HAL's review of its existing mitigation and compensation schemes, and the extent to which they should be adapted and improved for the purposes of addressing the effects of the proposed development, in accordance with paragraph 3.39 of the APF[605].

The Authorities' position on mitigation

567. As JR summarised in his evidence[606], there was a degree of confusion and disagreement between the Authorities as to what exactly they sought in the way of mitigation measures, notwithstanding that DF was providing noise evidence on behalf of all the Authorities.

a. In their letter of 28 April 2015, LBH set out the mitigation they sought only by reference to the LAeq 16hr metric[607].

b. DF's evidence then sought mitigation only by reference to the LAeq 8hr metric[608].

c. AW sought mitigation at the level of 54dB LAeq 16hr[609].

d. Prior to the provision of an errata sheet,[610] DC sought for HAL to provide:

i. assistance with the costs of moving for all households exposed to the 57dB LAeq 16hr contour[611]; and

ii. Mitigation for those experiencing a +3dB or more increase in noise leaving them exposed to a noise level of 57dB LAeq 16hr or above[612].

[604] HAL/JR/P/1, paras. 5.7 to 5.9.
[605] The Authorities' highly forensic and artificial criticism of the lack of a documented 'review process' in this respect (ASC paras 380 et seq) is misguided. HAL has plainly considered what is needed and has offered a revised form of offer which is reflected in the s.106. The policy does not require anything more, and the only substantive issue is whether that offer is adequate in the light of the APF or not.
[606] HAL/JR/R/1, paras. 3.17 to 3.25
[607] HAL/RTT/A/2, pp. 70 to 73.
[608] HIL/DF/P/2, section 7
[609] HIL/AW/P/1, para. 6.37.
[610] INQ/25 and INQ/25a.
[611] HOU/DC/P/1, para. 5.24.
[612] HOU/DC/P/1, para. 6.3

568. This confusion arose notwithstanding that in the run-up to the exchange of evidence HAL had sought clarity as to the Authorities' position(s) on this important matter.[613]

569. The LPA's letter of 28 April 2015 explicitly set out to "*clarify*" its position on mitigation. In response to the request "*to clarify the approach to alternative mitigation contribution*", the LPA set out its mitigation requirements only on the basis of the LAeq 16hr metric[614]. There was nothing in the letter to indicate that this would not be the mitigation that the Authorities would be arguing for in their evidence to the Inquiry.

570. When asked about this in XX, DF revealed that he had only decided that mitigation should be provided by reference to the 8hr metric "*after*" the writing of that letter[615]. Given that the deadline for the exchange of PoEs was 5 May 2015 that indicates that the LPA only settled upon the case it would adopt for the purposes of the inquiry on the central issue of mitigation extremely late in the process; less than a week before the exchange of PoEs, over six months after the start date for the appeal and over a year since LBH refused planning permission.

571. HAL considers it is not unfair to describe the Authorities' position on this issue as having been in a state of constant flux from the EIA scoping stage onwards. They have never settled on a consistent position, and that is reflective of the fact that none of the positions they have adopted have proved to be either defensible or demonstrably preferable to that espoused by the APF and reflected in HAL's case.

572. The Authorities' proposed mitigation is in any event fundamentally flawed.

a. It is based on the 8 hour LAeq which is not rooted in the scientific evidence of dose-response relationships (see above).

b. The 'objective' of the mitigation[616] is divorced from DF's own definition of SOAEL[617], which is based on an LAeq 16 hour level of 63dB.

c. If DF had used an 8 hour LAeq equivalent to the level of SOAEL for the 16 hour LAeq it was agreed in XX that it would be 66dB, and not the 60dB he in fact argues for.

d. DF's mitigation suggestions are divorced from the trigger for the offer of financial assistance towards insulation in the APF, which uses a 16 hour LAeq, and a level of 63dB.

573. In short, DF's suggested mitigation is divorced from the empirical evidence, the use of SOAEL as the trigger for noise insulation, and *all* policies.

574. Further, the Authorities' reliance on BS8233[618] is misplaced. British Standards are careful and clear to define their intended scope. It is common ground that BS8233 is specifically and explicitly intended to address a different factual situation to that

[613] HAL/RTT/A/2, p. 68.
[614] HAL/RTT/A/2, pp. 70 to 71.
[615] DF XX, Day 1 PM
[616] HIL/DF/P/2, para. 7.1.19
[617] HIL/DF/P/2, p. 56, Table 5.1.
[618] See e.g. ACS para. 228

which we are concerned with here, namely new dwellings and conversion associated with change of use[619]. This is explained under the heading "*Scope*" on page 1 of the document, which goes on to make explicit that BS8233 *"... does not provide guidance on assessing the effects of changes in the external noise levels to occupants of an existing building*"[620]. To seek to use the standard for the purposes of applying insulation measures to existing dwellings in the way suggested by the Authorities, with all of the additional attendant restrictions on what can reasonably be done, is to go beyond its clear scope and to set an unreasonable and unjustified requirement for the grant of planning permission.

Residential dwellings

575. As noted above, the APF expects that, as a minimum, financial assistance should be offered towards acoustic insulation to residential properties which experience an increase in noise of 3dB or more leaving them exposed to levels of noise of 63 dB LAeq 16h or more.

576. HAL currently operates a residential day noise insulation scheme which provides acoustic insulation to residential buildings exposed to the 1994 69dB LAeq 18hr contour[621]. This includes the provision of free secondary glazing (or half price double glazing) to external windows and doors, and loft insulation. As part of its UUs, HAL is a proposing a similar, but enhanced scheme as part of the Appeal Proposals whereby properties experiencing a change of at least 3dB in LAeq, 16hr, leaving them within the 63dB LAeq 16hr contour, would be eligible for free double glazing, rather than just half price. HAL has produced a Note on noise contours and insulation schemes illustrating the eligibility boundaries that apply to HAL's existing noise mitigation and compensation schemes, and to HAL's proposed schemes within its UUs[622].

577. This is an improvement on the existing scheme, recognising that the current scheme's restriction to half-price double glazing may have limited the extent of take up. This is reflected in the CAA's CAP 1165 on Managing Aviation Noise, which notes that:

> *"London Heathrow currently has a residential day scheme based on the 1994 69dB LAeq, 18 h contour and a night scheme based on the 90dB SEL noise footprint of the noisiest aircraft operating at night, as recommended by the government. The night scheme is eligible to just over 40,000 dwellings, however uptake has been very low due to a funding contribution of 50% and perceived high costs of the single supplier"*[623]

and recommends that:

[619] DF XX
[620] CD/02/04a, p. 1
[621] Para. 404 of the ACS wrongly refers to the existing scheme being based on a 16 hr contour, rather than an 18 hr contour. It can be seen that the existing scheme contour covers a larger area than the 63dB LAeq, 16 hr contour.
[622] INQ/49
[623] CD/02/12 p. 48

"…when insulation funding is offered, it is most effective where funding is available in full for those most seriously impacted by noise."[624]

578. It follows that in providing full funding, HAL's offer under the Appeal Proposals is likely to be more effective than its current scheme. DF recognized this as a welcome step that should help to improve uptake by going beyond the Government's minimum expectations[625]. Ultimately, HAL's full funding of this mitigation offer will assist in enabling the newly affected areas to 'catch up' with areas that have been eligible for HAL's existing schemes for some time.

Community buildings

579. The APF expects that acoustic insulation will be offered to noise sensitive buildings, including schools, where they are exposed to noise levels of 63dB LAeq 16hr or more. Where acoustic insulation is neither appropriate nor cost effective, the APF expects that alternative mitigation measures should be offered.

580. HAL already operates a community buildings noise insulation scheme which applies to those community buildings falling within the 2002 63dB LAeq noise contour, and which is in accordance with the APF. The Inspector will have been able to hear how effective measures installed under that present scheme are on the site visit.

581. HAL is now proposing an enhanced scheme as part of the Appeal Proposals which would reflect the Government's expectations in the APF, and apply to those community buildings falling within the 63dB LAeq 16hr contour as a result of the introduction of easterly alternation. HAL's evidence shows that 10 schools, and no community buildings[626], fall within this contour, and are consequently eligible for acoustic insulation measures. HAL has set out in its UUs the measures it will undertake at each school qualifying under this scheme. This includes improvements to existing sound insulation already provided to schools through the existing scheme. In addition, there is one school which will be outside the 63dB LAeq, 16 hr contour that HAL will insulate. This is a special school which will experience a large increase in noise and has therefore been given unique consideration[627].

582. With the exception of Littlebrook Nursery where a survey has yet to be carried out, the measures to be undertaken have been identified through surveying of the schools. In each case, the company carrying out those surveys has costed the measures identified to determine appropriate budget costs, and it is these costs that are included in HAL's UUs[628]. HAL's evidence has demonstrated that after these mitigation works are carried out, it is expected that schools will benefit from reductions in internal noise levels that are greater than the increase caused by the

[624] CD/02/12, p 50.
[625] DF XX, Day 2AM, and now see ACS para. 359.
[626] The ACS apparently seeks insulation for certain other community buildings (para. 431), stating that "So far as HAL is concerned, none is eligible for mitigation" (para. 413) but does not identify or acknowledge the fact that none of them are even close to being eligible for such insulation in accordance with the Government's clear policy in the APF. In fact, all fall outwith even the 57dB contour (CD/01/02 p. 95, para. 6.8.60).
[627] Cedars was a school identified in the ES as experiencing a significant effect. The offer of insulation for this school goes beyond what is required in the APF, though this is not acknowledged anywhere in the ACS.
[628] INQ/47.

Appeal Proposals[629]. It follows that in each case, following mitigation, the internal noise environment in those schools is expected to be better than it is at present, even with the implementation of full easterly alternation.

583. In assessing the adequacy of HAL's proposed mitigation for schools, the existing noise environment in any given school must be a material consideration as to what HAL can reasonably be expected to achieve by way of mitigation.

584. Although the LPA's position originally appeared to be that any mitigation would have to "*achieve or minimise the breach of*" BB93 standards,[630] DF softened his stance in XX, referring to that publication as justification for setting a "*stretch target*" to be secured subject to the use of "*best practicable means*"[631]. However, it is simply inappropriate to use BB93 as setting the relevant standard in this way. BB93 is designed to apply to new build schools, conversions and refurbishment work, not the installation of noise mitigation measures in existing schools in response to a change in noise levels. As RTT explained in evidence, there is a limit to what can be achieved in existing buildings in comparison to new builds or complete refurbishments. It would therefore be inappropriate to use BB93 in this way to set a standard to be met by way of mitigation.

585. Furthermore, the existing noise levels in the affected schools are already in excess of those set out in BB93. HAL considers that to mitigate to levels considerably below those already experienced, and thus considerably beyond the impacts of the Appeal Proposals, would be to place an unreasonable requirement on HAL. In any event, HAL's proposed mitigation for schools does go further than simply mitigating the effects of the Appeal Proposals; as explained above, once implemented, it is expected that internal noise levels in the affected schools will in fact be less than they are today[632]. That is a benefit of the Appeal Proposals and their associated mitigation which should be afforded considerable weight.

586. Quite aside from his reliance on BB93, DF's position was that mitigation should be provided by reference to the LAeq 8hr metric. However, the 8hr metric is inappropriate for these purposes:

a. the APF itself is clear that the LAeq 16hr metric is appropriate for assessing the mitigation to be provided to noise sensitive buildings, expressly including schools.

b. empirical evidence of the impacts of noise on schools (RANCH) is based on the 16 hour LAeq metric[633].

c. DF's own submission to the AC recommended the use of the 16hr metric for the purpose of assessing the impact of noise on the cognitive development of children[634].

[629] INQ/23A, p. 3.
[630] HIL/DF/P/2, para. 7.1.24.
[631] DF XX, Day 2 PM
[632] INQ/23a.
[633] CD/02/15
[634] CD/01/36, p. 10, Table 1.

d. In the specific context of Heathrow, although it is the Authorities' case that the 8hr metric better reflects the school day, the 8hr metric in fact leaves out of account completely those days when alternation means a given school is not being overflown at all, as will be the case for one week during every fortnightly alternation schedule. An 8hr contour showing this period of no overflights would look very different to the 8hr contours the Authorities rely upon which only include periods of overflight. Ultimately, overflights will occur when Heathrow is operating on easterlies (around 24% of the time) and, once easterly alternation has been introduced, only for around half of that time (around 12% of the time[635]). The 8hr metric fails completely to reflect that.

587. In his PoE, DC quoted policy EC3 of LB Hounslow's emerging Local Plan[636]. However, it was not set out what stage those policies had reached in the examination process[637]. In the version of his PoE provided to HAL, DC had misquoted emerging policy EC3; extra wording was included in sub-para (b) of the second section of that policy that the LAeq 8hr metric was "more relevant for schools [than the 16hr metric] because of their opening times". There was some confusion over which version of his PoE had been provided to the various parties but in XX, DC was very clear that he had taken that wording from the most recent version of the Local Plan in existence at the time of writing his PoE. However, in a note submitted at the end of the Inquiry he accepted that wording does not form, and has never formed, part of that emerging policy[638]. In any event, it is at least now clear that there is not, and never has been, any local policy support for the use of the LAeq 8hr metric for assessing the impact of the Appeal Proposals on schools or other community facilities.

588. Thus it can be concluded that the 16hr LAeq provides a suitable and appropriate metric reflecting the Government's clear policy in the APF, the available evidence regarding the impacts of particular noise levels on schools, and the overall pattern of noise exposure at any given school. It therefore appropriately forms the basis of HAL's mitigation offer.

Noise relocation offer

589. The APF requires that those living in residential properties exposed to the 69dBA LAeq 16hr contour should be offered assistance with the costs of moving. The APF offers no guidance or advice on the level of that assistance. Nonetheless, consistent with APF policy, HAL has an existing home relocation scheme which applies to properties that fall within the 2002 69dB LAeq noise contour whereby occupants are entitled to financial assistance with the costs of moving up to a cap of £12,500.

590. HAL is proposing a relocation assistance package as part of its UUs accompanying the Appeal Proposals. Under this package, where homes are exposed to noise levels of 69dB LAeq 16hr or more as a result of the introduction of easterly alternation, HAL will pay the costs of relocation up to a cap of £12,500 (calculated as a percentage of the value of the house plus a lump sum). Some 175 dwellings

[635] See para 97c, above.
[636] HOU/DC/P/1, para. 4.15.
[637] INQ/25.
[638] INQ/37.

will qualify for assistance with the costs of relocation under this scheme.[639] That proposed package is also clearly in accordance with policy in the APF and forms part of Heathrow's NAP, which has been approved and adopted by the SoST in 2014. If the SoST had concerns about the scheme, one would have expected those concerns to have been raised and addressed as part of the NAP adoption process.

591. Nonetheless, the Authorities criticise the proposed cap of £12,500 as being insufficient. HAL's evidence demonstrates that the average payment made under HAL's existing scheme has been less than the cap of £12,500 (with the average in 2015 to date being £9,904.2)[640]. It is only where a property exceeds £500,000 in value that the cap is reached. In reality, the average property value passing through HAL's existing scheme has been considerably below that.

592. DF was clear in XX that he did not support such a requirement. Nor could he; it is manifestly contrary to policy and would impose a very considerable and unduly onerous burden on HAL that could in no way be justified.

Noise induced vibration

593. The ES recognised that there is a residual risk of noise induced vibration in lightweight structures and conservatories in Longford, from aircraft beginning their departure roll on runway 09L.

594. HAL is proposing as part of its UUs a compensation scheme whereby it will assess any such structures within 500m from the northern runway in Longford to assess what mitigation measures can be undertaken, and will provide up to £10,000 towards measures to mitigate any vibration. As RTT explained, such measures could include, but are not limited to, replacing lightweight flooring.[641]

595. HAL's research indicates that there are few properties in Longford that are susceptible to noise induced vibration in this way.[642] £10,000 is considered a reasonable and sufficient sum to adequately mitigate any noise based vibration that is likely to occur as a result of the Appeal Proposals.

The noise barrier

596. HAL is proposing the construction of an acoustic barrier measuring 5m in height and 593m in length on land at the airport boundary between the airfield and Longford. The forecast effect of the noise barrier is to reduce noise levels at receptors in Longford by approximately 3dBA, up to 5dBA, from what they would be without the barrier in place, with the exact effect depending on the location of the receptors and source of the noise.[643]

597. The LPA was initially supportive of the construction of a noise barrier[644], and a majority of those Longford residents who responded to HAL's consultation were

[639] CD/01/02, chapter 6, Table 6.13.
[640] INQ/22.
[641] RTT questions by Inspector, Day 4 PM.
[642] RTT questions by Inspector, Day 4 PM.
[643] HAL/RTT/P/01, para. 8.3.4.
[644] HAL/JR/P/1, para. 8.42. The ACS now makes clear that the Authorities consider that it is necessary (para. 86).

similarly in favour[645]. Indeed, a further majority wished for it to be even higher than the proposed 5m. AW confirmed that he did not take issue with the quality of that consultation[646]. HAL conducted a detailed assessment to determine both the most appropriate physical characteristics and siting for the noise barrier. As set out in the ES[647], and in JR's evidence[648], the proposed location was determined to be the most appropriate in terms of visual impact (which is considered further below) and noise attenuation, given the physical and operational constraints in the area.

598. DF's written evidence was that further work should be undertaken on the barrier's height and location to see if a more effective placement could be achieved.[649] However, he had not undertaken any such work himself or considered the aforementioned constraints on the location of the noise barrier. Neither had he given the LPA any advice, or been asked to provide advice, as to where the noise barrier could or should be located if not where currently proposed. None of the Authorities' other witnesses advanced any evidence to support a conclusion that the noise barrier should either be in a different location, or in a different form, to what is in fact proposed. AW specifically accepted that if the Appeal Proposals were to go ahead, the Noise Barrier "*is the best solution to mitigate*"[650].

Respite as mitigation

599. The Appeal Proposals are themselves a measure that will serve to mitigate the noise impacts of Heathrow's current operations. By allowing the introduction of regular, scheduled alternation they will provide predictable respite for those who are currently constantly overflown on easterly operations. There is clear support for respite as mitigation.

a. The APF itself endorses respite as a "*new and innovative*" approach to mitigation.[651]

b. The London Councils' response to the Draft APF supported respite as "*an effective noise amelioration measure widely supported by communities living under the flightpaths at Heathrow*".[652]

c. The MoL's response to the Draft APF stated that "*the value that people assign to predictable periods of respite from aircraft noise must also be appropriately recognised*".[653]

d. DF himself recognises and accepts "*the noise benefits of runway alternation are well recognised*" and the "*vital importance of runway alternation*".[654]

[645] CD/01/1, para. 5.2.2; and HAL/JR/P/1, para. 8.45.
[646] AW XX, Day 8AM.
[647] CD/01/02, section 3.2.13; table 3.2; and Figure 3.8.
[648] HAL/JR/P/01, paras. 8.46 to 8.50; and HAL/JR/A/9.
[649] HIL/DF/P/1, para. 7.2.6.
[650] AW XX, Day 8AM.
[651] CD/01/17, para. 3.28.
[652] CD/01/33, section 4.7.
[653] HAL/JR/A/03, para. 96.
[654] HIL/DF/P/2, para. 7.4.1, first bullet.

e. The Government's decision to end the Cranford Agreement confirms the importance that the Government attaches to the provision of respite[655].

600. However, the provision of predictable periods of respite also mitigates the effects of the Appeal Proposals themselves. Those who would in future find themselves overflown as a result of easterly departures from the northern runway (and easterly arrivals on the southern runway) will also benefit from the provision of predictable periods of respite.[656] They will only be overflown on easterlies for 12% of total operations. DF accepted in XX and in RX that predictable alternation was an "*advantage*" and that it was at least "*partial and modest mitigation*".[657] He accepted in RX that "*any period of lesser noise is welcome*".[658] That was an important recognition of the fact that that alternation measures permitted by the Appeal Proposals are in fact also mitigation measures for those who would in future be overflown, as well as those who are currently overflown.

601. Furthermore, as RTT explained in evidence and as the ES sets out[659], when assessing impacts resulting from a change in noise environment it is necessary to focus on the longer term, rather than the immediate aftermath of the change. When regard is had to the longer term impacts, there is no reason to believe that alternation would be any less effective or valuable as a form of mitigating the adverse noise impacts associated with overflights in e.g. Cranford than it is for those who are currently overflown but do get the benefit of predictable respite. Similarly, those moving to the area after the introduction of easterly alternation would be expected to benefit from that alternation.

602. Notwithstanding DF's position as set out above, he nonetheless put forward the view that dispersion of aircraft along the width of departure tracks reduces the impression of respite. However, as RTT's evidence illustrated, most departing aircraft in fact fly along the centre of the departure route.[660] That information is not materially different to the data that accompanied the ERCD Report where mean departure tracks were shown.[661] Furthermore, Figures 6.16 and 6.17 to the ES are instructive in indicating the percentage of relief enjoyed by persons under the departure routes. Compared to Figure 6.16 (which illustrates easterly departures without the Appeal Proposals), Figure 6.17 (which illustrates easterly departures with the Appeal Proposals) shows a markedly less significant disparity in terms of percentage relief for those under the 'cross-over' areas than currently exists for those who get no respite on easterlies. This is demonstrated by the reduction in dark blue areas in Figure 6.17. Figure 6.15 demonstrates the same for easterly arrivals under the Appeal Proposals, with relief percentages evenly distributed between the arrivals tracks compared with Figure 6.14.

[655] CD/01/25, para. 74.
[656] HAL/RTT/RP/01, para. 2.4.8.
[657] DM XX and RX, Day 2
[658] DM RX, Day 2 PM.
[659] CD/01/02, paras. 6.7.9 to 6.7.10,
[660] HAL/RTT/RP/01 paras. 2.4.9 to 2.4.11.
[661] CD/02/05, figure 2.3.

Existing regulation and operational procedures as mitigation

603. Mitigation is not limited to compensation and insulation. As MB and RTT explained, Heathrow is subject to an exacting array of international and national regulation in its operations.[662] Under those provisions the Secretary of State has both duties and powers to ensure the acceptability of Heathrow's noise impacts, and as a result a number of those regulations are in place to minimise and mitigate the noise impacts from Heathrow's existing operations. They would continue to apply post the implementation of the Appeal Proposals. Similarly, it is important to note that Direction 9 of the CAA Air Navigation Directions 2001, which would have to be complied with before HAL could introduce scheduled easterly alternation, imposes an express obligation on the CAA, where changes to airspace arrangements or the use of them may have significant detrimental effects on the environment, to advise the Secretary of State of "*plans to keep that impact to a minimum*"[663]. That is similar to the obligation in the NPSE. Consequently, the regulatory environment within which Heathrow operates, and will continue to operate, is an important material consideration that is relevant in forming a judgment as to whether HAL can be said to "mitigate and minimise adverse impacts on health and quality of life", in accordance with the second objective of the NPSE, and as to what additional mitigation is required for the impacts of the Appeal Proposals[664].

604. The Authorities' seek to make two points in this respect:

    a. HAL has not defined a level for LOAEL; and

    b. the measures relied upon by HAL in the Noise SOUG are in most cases not specific to the scheme[665].

605. HAL is plainly right to say that in this case there is no practical need to identify LOAEL. The measures that it relies upon to mitigate and minimise noise impact below SOAEL are effective to achieve that aim at all noise levels, and certainly very far beyond the contours that would be represented by DF's identified level of LOAEL. In that context, no practical difference arises for the purposes of decision-making depending on where it is felt that LOAEL arises in this case[666].

606. Similarly, in circumstances where the measures in question will undoubtedly be effective to mitigate and minimise the noise effects which arise as a result of the Airport's operations - including those operations made possible by the grant of planning permission in this case - it makes no conceivable difference whether or not they are "*directed specifically to the appeal proposals*"[667]. If they are effective to

[662] HAL/RTT/P/01, section 3.3; and HAL/MB/P/1, section 3.
[663] CD/01/23c.
[664] See e.g. Gateshead MBC v. SSE (1997) 71 P&CR 350, per Glidewell LJ at p. 355; and the other cases cited by the Authorities, all of which confirm that the existence of a separate statutory regime for preventing or mitigating adverse impacts is a material planning consideration
[665] ACS paras. 388-391
[666] It may have been for this reason that RTT was not asked to express a view on where he considered LOAEL to be in this case at any stage during his extensive XX
[667] ACS para. 389

mitigate and minimise the noise effects from all aircraft operations at the Airport[668], they achieve the policy's objective both for the operations made possible by the grant of planning permission and all other operations. There is no policy requirement that the measures to achieve this aim must be what the ACS describes as "scheme mitigation", and there is no other logical or practical reason why that additional requirement should in some way be inferred.

607. As RTT explained, although the SoST has the power to introduce noise mitigation schemes at Heathrow, he has not exercised his powers to do so. It is reasonable to assume that if the SoST was concerned that Heathrow's existing schemes were not adequate, reasonable or fair he would have intervened[669]. That he has not done so indicates that Heathrow's existing schemes are judged by the Secretary of State to be appropriate in all the circumstances. Moreover, in approving and adopting HAL's latest NAP in August 2014, which contains details of HAL's existing mitigation schemes, the SoST has evidently concluded that those existing schemes strike a fair balance having regard to all the relevant factors considered above and the evidence both of the noise impacts of existing operations and the effectiveness of HAL's existing schemes in mitigating that noise.

Additional mitigation measures

608. The above measures together comprise a substantial and suitably comprehensive package to avoid significant adverse effects of noise on health and quality of life, and to minimise and mitigate other adverse effects of noise on health and quality of life in line with (and in some respects exceeding) the expectations in the APF. They show that HAL has made particular efforts to mitigate the noise effects of its proposals[670]. Nevertheless, on behalf of the Authorities, DF set out in his PoE a number of other suggested mitigation requirements, including one requiring that compensation payments be linked to HAL's profits[671] although he conceded in XX that he was not in fact putting forward all of his suggestions as actual requirements necessary if planning permission was to be granted. In other cases, he was unable to supply the required detail; he was not, for instance, able to explain how his proposal for HAL to provide access to outdoor amenity spaces would work in even basic terms[672] and in no case had he considered how his suggestions aligned with the NPPF tests for planning conditions or obligations.

609. HAL considers DF also went beyond his expertise (disputed by the Authorities) in putting forward a series of operational measures that in his view should be secured to provide additional mitigation, including restrictions on night operations and the use of mixed mode[673].

610. Heathrow's existing operations are already regulated by the SoST. The APF is clear that it is appropriate for the Government to take decisions on the right balance between noise controls and economic benefits at Heathrow, reconciling the local and

[668] In that context, it is relevant and important to note that these measures are contained within Heathrow Airport's NAP, which has been approved and adopted by the SoST.
[669] See CD/01/17 para. 3.10
[670] CD/01/17 para. 3.28
[671] HIL/DF/P/2, p. 73.
[672] DF XX, Day 2 PM
[673] HIL/DF/P/2, section 7.4.

national interests[674]. There can be no case in support of the proposition that the LPA is better suited than the SoST, and the CAA, to make decisions on changes to operational practices.

Conclusions on noise

611. HAL's evidence has demonstrated that the noise impacts of the Appeal Proposals are not materially different to those the Government was aware of when it made the decision to end the Cranford Agreement. It is common ground between the parties that, as a result, the main noise issue relates to whether HAL's mitigation proposals are adequate. HAL's mitigation is fully in accordance with that expected by the APF, both in terms of the measure of eligibility and in terms of what mitigation is offered. HAL's evidence has demonstrated that its proposed package of mitigation is adequate to mitigate the noise impacts of the Appeal Proposals and accords with the requirements of the APF and also by extension the NPSE.

AIR QUALITY

Introduction

612. The second RfR alleges that the Appeal Proposals fail to demonstrate that they would not "*result in unacceptable in local air quality (failing to sustain compliance with European Union health-based air quality limit values), and additionally no specific mitigation measures are proposed to minimise the exposure of the nearby impacted communities to the resultant polluted air…*" (emphasis added). It is agreed between HAL and LBH that the focus of this RfR is solely on annual mean concentrations of NO2.[675]

613. It is clear from the words we have underlined, and even clearer when one reads the relevant parts of the Committee Report[676], that the issue of 'acceptability' which led to the decision to refuse planning permission was based exclusively on a concern related to non-compliance with the 40µg m^{-3} annual mean objective in Longford. The concern about impact on limit values on two areas of highway played no part in LBH's case until a very late stage in the preparation for this Inquiry, and as we explain below, the absence of any such concern from LBH's consideration of the application reflects the fact that such an assessment is not necessary for a scheme such as this, and does not provide any sound basis on which to make a request for mitigation.

614. The RfR was of course targeted at the air quality assessment accompanying the planning application and which informed the ES. That assessment was carried out in early 2013 and evaluated an assessment year of 2015, which at the time was considered to be the likely year of implementation. However, the delays in obtaining planning consent have meant that a realistic implementation year is now 2017. As CW explained,[677] air quality is generally improving over time and

[674] CD/01/17, para. 3.10.
[675] Air Quality SOCG, para 2.1.
[676] CD/01/03, pp. 92 to 95.
[677] HAL/CW/P/01, paras. 2.1.2 to 2.1.4.

consequently HAL considered it prudent to commission a revised assessment[678] making use of HAL's updated air quality inventory.[679]

615. HAL's case is that the Appeal Proposals would not result in an unacceptable deterioration in air quality, and that consequently no specific mitigation measures are required.

616. Notwithstanding HAL's position, at the start of the Inquiry, HAL agreed to include in its UU a payment of £540,000 to the LPA to be expended on measures to upgrade the existing bus fleet operating in Longford to Euro VI standards. This is the only mitigation LBH has requested, and it therefore overcomes its objection on air quality grounds. HAL's offer has been made unconditionally so that it does not depend upon the Inspector and/or Secretaries of State concluding that it satisfies the requirements of regulation 122 of the Community Infrastructure Levy Regulations 2010. If it is concluded that the mitigation does not satisfy that regulation, e.g. it was not necessary, then the Secretaries of State will no doubt disregard the obligation. If, however, the opposite conclusion is reached, then the obligation addresses the issue.

617. In light of that offer, LBH has agreed that its second RfR has been overcome. Nonetheless, it is recognised that as HAL does not accept the obligation is necessary, for the Inspector and Secretaries of State to reach a conclusion on whether or not the obligation can be taken into account in determining this Appeal it is necessary and appropriate for HAL to set out its case on air quality to assist in making that decision.

Policy and approach

618. As JR explains[680], national planning policies are principally concerned with ensuring compliance with and contributions towards EU limit values. The common theme to emerge from development plan policy and from the MoL's Air Quality Strategy[681] is the need to ensure that strategies are in place to minimise air quality impacts over time. This approach is consistent with the APF, which confirms that:

a. the Government's policy is to seek improved international standards for aviation to reduce emissions from aircraft[682];

b. airports and local authorities should work to improve air quality, including encouraging use of cleaner surface access vehicles[683]; and

c. studies have shown that NOx emissions from aviation related operations reduce rapidly beyond the immediate area around the runway. However, road traffic remains the main problem with regards to NOx in the UK. Airports are large generators of surface transport journeys and as such share a

[678] CD/03/04.
[679] CD/03/06.
[680] HAL/JR/P/01, paras. 6.8 to 6.20.
[681] CD/03/01
[682] CD/01/17, para. 3.48.
[683] CD/01/17, para. 3.48.

responsibility to minimise the air quality impact of these operations. The Government expects airport operators to take this responsibility seriously[684].

619. JR's evidence also describes the 'air quality neutral' principle to be found in the London Plan[685] and Local Plan. In this case, having regard to the nature of the development and the source of the pollutants, there is recognition in the MoL's SPD and Technical Report that it is not appropriate to apply the principle of air quality neutrality[686]. The ACS nevertheless seeks to rely on the principle of air quality neutrality in this case[687].

620. CW's evidence explains the background to the ending of the Cranford Agreement from an air quality perspective in detail.[688] In short, the Government's decision in 2009 to end the Cranford Agreement recognised that while it was primarily a noise mitigation measure it potentially had air quality impacts.[689] The 2007 ACC noted that:

> *"Our modelling suggests that the loss of the Cranford agreement, in itself, would affect the distribution of NO2 concentrations around the western end of the airport (by introducing easterly departures off the northern runway on 09L) – by up to 13 per cent at some receptors, and by up to five per cent at the eastern end of the airport."*[690]

621. That consultation document was informed by CERC's Report on Air Quality Studies for Heathrow[691], which indicated that ending the Cranford Agreement would result in increases of up to 3.9 µg m^{-3} in NO2 at one receptor in Longford in 2015. It also indicated that the ending of the Cranford Agreement would not result in any new exceedances of the 40 µg m^{-3} annual mean NO2 limit in Longford, but two new exceedances were shown at residential receptors near to the A4 and M4, and five existing exceedances at residential receptors were worsened.[692]

622. The 2009 ACD noted that the air quality impacts of ending the Cranford Agreement were "*modest and … not critical to securing compliance with EU limits*".[693]

623. The decision to end the Cranford Agreement therefore clearly recognised the air quality effects of doing so, but prioritised the noise benefits.

624. During the Air Quality session there was consideration of the distinction between Limit Values and Objectives, and why in HAL's view the latter appropriately provide the focus for development control decisions for non-road schemes such as this. HAL's position can be summarised as follows:

a. Both Limit Values and Objectives are material planning considerations, but the policy approach taken to them is different.

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[684] CD/01/17, para. 3.51
[685] CD/01/19
[686] HAL/JR/P/01, paras. 6.13 to 6.19.
[687] ACS para. 441
[688] HAL/CW/P/01, section 3.2.
[689] CD/01/24, para. 3.140.
[690] CD/01/24, para. 3.141.
[691] CD/03/14.
[692] CD/03/14; and HAL/CW/P/01, para. 3.2.9.
[693] CD/01/25, para. 36.

b. Paragraph 124 of the NPPF draws a distinction between the two:

> *"Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new developments in Air Quality Management Areas is consistent with the local air quality action plan."*[694](emphasis added)

c. Defra's Air Quality Strategy confirms that AQMAs are based on Objectives rather than Limit Values[695].

d. LBH's Air Quality Strategy therefore has as its aim to meet air quality objectives laid down in the National Air Quality Strategy[696].

e. The distinction is also reflected in DL's Table 2[697], where by reference to the heading 'Compliance', it can be seen that responsibility for meeting the EU Limit Value enshrined within the Air Quality Standards Regulations 2010 lies with the Government on the basis of strategic action, whereas Local Government action is focused on AQMAs and Objectives.

f. That distinction is also to be found in London Plan policy 7.14, in which Part B (Planning Decisions) focuses on "local problems of air quality" in AQMAs, whereas Part C (LDF Preparation) has a broader aim for policy-making of seeking reductions in levels of pollutants referred to in the Government's National Air Quality Strategy[698].

g. The MoL's Air Quality Strategy helps in understanding the practical difficulties in failing to recognise the distinction to which CW referred during the Air Quality session. Figure 2.7[699] and para. 3.7.3[700] are a stark illustration of CW's point about the implications of refusing planning permission for a development such as this on the basis that it has the effect of adding to NO2 concentrations on London's roads where they are already above the Limit Value. Paragraph 3.8.27 helps by putting the position into numbers: 45-65% of roadside locations exceed the Limit Value for 2015. As CW quite fairly put it, if adding to that level was in principle a basis for refusing planning permission "*nothing would be approved*".

h. The only direct policy support that DL is able to identify for the use of Limit Values in development control decision-making in his PoE is the NPS on National Networks[701]. The NPS is concerned only with nationally significant road and rail projects which fall to be approved under the Planning Act 2008.

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[694] CD/01/16, p. 29.
[695] HIL/DL/P/1, Appendix p. 21, para. 56.
[696] CD/03/02, p. 14.
[697] HIL/DL/P/1, Appendix p. 7.
[698] CD/1/19, and see also para. 7.47 of the explanatory text.
[699] CD/03/01, p. 33.
[700] CD/03/01, p. 73.
[701] HIL/DL/P/1, para. 3.19.

Both in type and in scale these are very far removed from what is in issue in this case.

i. Finally, it was notable that when DL was pushed to identify examples of where this issue had been included in EIAs for schemes other than nationally significant road and rail schemes, or used as a basis for decision-making outside that context, none were forthcoming.

625. Compliance with EU Limit Values (as opposed to Objectives in the AQMA) was not raised by LBH at the scoping stage[702]. Nor was it the subject of a Regulation 22 request. Indeed, the fact that this is not normally an assessment that is considered necessary or appropriate for schemes such as this is reflected in the agreed fact that there is no accepted method for carrying out such an assessment[703], and that the only guidance available is published by Highways England for the purpose of assessing road traffic schemes[704]. HAL did provide such an assessment when it was requested, but set against that policy background, and for other reasons we go on to consider below, the output is not properly capable of leading to a conclusion that the effects it describes make the provision of mitigation necessary.

Context

626. Section 7 of CW's PoE describes the steps HAL has taken, is taking, and will take in the future to reduce airport-related emissions, and to improve air quality in the vicinity of the airport.

627. HAL's approach is set out in its most recent Air Quality Strategy 2011-2020[705], which is designed to complement measures being implemented by the local authorities in the area, the MoL's Air Quality Strategy[706], and national initiatives.

628. Through delivery of Heathrow's Air Quality Strategy and successive Action Plans, emissions of NOx from airport sources have reduced while passenger numbers have increased. The most recent modelling shows an overall 16% reduction between 2008/9 and 2013, with specific examples of reductions including a 28% reduction from airside vehicles and ground support equipment, and a 70% NOx saving from heating plant[707]. The approximate halving of APU running times in that period has in itself led to an estimated reduction in NOx emissions by about 200 tonnes per year[708]. HAL is continually striving to do more translating into real improvements in ambient air quality in the local area[709].

Assessment of impacts

629. The Air Quality SOCG records a very substantial level of accord between DL and CW over the assessment that has been undertaken. The key points of agreement include:

[702] CD/01/02, section 4.5 and para. 7.6.3.
[703] HAL/CW/RP/A/01.
[704] HIL/DL/P/1, paras. 5.21 to 5.24.
[705] CD/03/09 and CD/03/10.
[706] CD/03/01
[707] HAL/CW/P/01 para. 7.2.3.
[708] HAL/CW/P/01 para. 7.2.3.
[709] HAL/CW/P/01 para 7.3.5 and Figure 7.1 on p. 34

a. the framework for assessing significance[710];

b. the limited geographical area where adverse effects are in issue[711];

c. the reduction in concentrations of nitrogen dioxide for residential properties in Spelthorne[712];

d. the appropriateness of the assessment and the results, using the Defra reduction in emissions factors, with acknowledged limitations of the road traffic model[713];

e. the correctness of the measured annual mean concentrations around Heathrow[714]; and

f. the likely increase in the annual mean NO2 concentration at a relevant Longford receptor in 2017 is 1.5 µg m^{-3} assuming 470,400 ATMs, or 1.6 µg m^{-3} assuming 480,000 ATMs[715].

630. As discussed during the air quality sessions of the Inquiry, the matters in dispute are in fact narrower than might be suggested by a reading of section 3 of the SOCG. In particular:

a. Paragraph 3.2 identifies as a matter in dispute:

"Whether annual mean concentrations of NO2 will meet the 40 µg m^{-3} *Air Quality Objective at residential receptor locations in Longford in 2017 and 2020 with the proposed development".*

b. In fact the issue is narrower than that, because as CW explained there are in fact only three residential receptor locations in Longford (two of which are at a single property) where that issue arises - even on LBH's case, using *all* of its preferred assumptions.

c. Paragraph 3.3 identifies as a matter in dispute:

"Whether the assessment should be based on worst case assumptions"

d. That formulation simply does not reflect the real dispute between DL and CW, which is whether DL's preferred assumptions[716] reflect what DL variously refers to in his RPoE as "likely worst-case"[717], "realistic and likely worst case"[718] and "reasonable worst case"[719].

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[710] Air Quality SOCG, para. 2.2
[711] Air Quality SOCG, para. 2.3
[712] Air Quality SOCG, para. 2.4
[713] Air Quality SOCG, para. 2.6 to 2.9
[714] Air Quality SOCG, paras. 2.11 to 2.12 - Nb. The Green Gates measured annual mean in Appendix A of the SOCG has been below 40 in each year between 2006 and 2014, save for 2010.
[715] Para. 2.13
[716] Namely: 480,000 ATMs and no improvement at all in background concentrations (see HIL/DL/R/1, para. 3.11).
[717] HIL/DL/R/1, paras. 3.2 and 3.4
[718] HIL/DL/R/1, para. 3.4
[719] HIL/DL/R/1, paras. 3.8 and 3.11.

e. Paragraph 3.5 refers to taking account of beneficial effects elsewhere to offset the need for mitigation in Longford. As HAL made clear in the Inquiry, it is accepted that if mitigation were otherwise necessary in Longford, HAL does not seek to argue that it need not be provided because of beneficial effects elsewhere.

631. Thus the actual areas of disagreement are quite limited, and in most cases the implications of the disagreement are not material. In particular:

a. The disagreement over traffic data; during the Air Quality session DL made plain that he does not suggest that any different adjustment should be made to the model outputs to reflect his concern, and so the figures do not change depending on the outcome. Further and in any event, CW has provided an explanation as to why this concern could not properly lead to the conclusion that the model is under-predicting in Longford. As he notes, in locations like Longford which are further from the major roads in the study area, and where total concentrations are typically lower, the model is shown to be slightly over-predicting[720]. On that basis HAL does not address this point further.

b. Similarly, the disagreement over the appropriate meteorological year; DL accepted during the air quality session that CW had been correct to say that DL had misinterpreted what had been said about this in the ES[721] and DL has not provided any proper basis for rejecting CW's analysis in section 2.3 of his RPoE. As with the traffic issue, there is no alternative figure that DL invites the Inspector or Secretaries of State to prefer by reference to this point. Again, the point is not addressed further.

c. The difference over the number of ATMs which represents a realistic worst case amounts to a difference of 0.1 µg m^{-3} when translated into the assessment of effects at Longford. Whilst the exceedences that DL claims are so marginal (a maximum of 0.3 µg m^{-3}) that this would actually be enough to reduce concentrations to one of the three receptors in Longford to just below the 40 µg m^{-3} level[722], in reality the difference is so small that it ought not to be determinative of whether an impact is unacceptable or not. This is nevertheless addressed further below because in fact the number of ATMs used is entirely appropriate, and 480,000 is neither realistic nor reasonable.

d. Thus the only issue that makes any material difference to the numbers is whether the use of the Government's own predictions for reductions in emission factors (produced by Defra) should be relied upon, or whether it is realistic and reasonable to reject those and instead assume that by 2017 there will no improvements at all over the position in 2013 as a result of the Government's concerted efforts to improve air quality. It is this single factor that leads to the figures shown in DL's Appendix A16, which assume concentrations would be 9% higher than those presented for 2017[723]. The critical importance (and sensitivity) of that factor for DL's assessment was

[720] HAL/CW/RP/01, section 2.2
[721] HAL/CW/RP/01 paras. 2.3.7 to 2.3.11.
[722] See HAL/CW/RP/01.
[723] See HIL/DL/P/1, para. 5.14

explained by CW during the Air Quality session, when he pointed out that if one assumes that it is correct to use 480,000 ATMs but to only assume that concentrations will be 8% higher than forecast in 2017, no exceedence would result at any of the receptors[724]. Particular attention is given to this matter in the submissions which follow.

The Issues

The number of ATMs

632. There are two issues to consider:

a. Does the use of 470,400 ATMs[725] represent a reasonable or realistic worst case for the purposes of assessment; and

b. Does the use of 480,000 ATMs represent a reasonable or realistic worst case for the purposes of assessment?

633. As explained during the Air Quality session, these must necessarily be separate questions because a negative answer to the first question does not logically mean that there should be a positive answer to the second. In simple terms, it is possible to conclude that a realistic worst case might be higher than 470,400 but not as high as 480,000.

470,400

634. It can be seen in CW's Appendix 4[726] that 470,400 is a higher figure than the average in recent years. The maximum that has been achieved is 476,295 (2011) and the average since 2008 is 467,000 ATMs. On that basis, and having regard to the very small increment (0.1 µg m^{-3}) involved in going as high as 480,000 (see above), the use of 470,400 as a reasonable or realistic worst case ought to be entirely uncontroversial.

480,000

635. The airport has never managed to achieve 480,000 ATMs. At its very highest (2011) it was still 3,605 ATMs short of that total and MB gave clear and uncontested evidence as to the practical reasons why HAL would never in fact schedule to achieve 480,000 ATMs.

636. An assessment assuming 480,000 ATMs could not therefore properly be described as "*realistic*" worst case, "*reasonable*" worst case or "*likely*" worst case. It is more properly to be regarded as a sensitivity test, and it is helpful in that regard because it shows that if the Inspector and Secretaries of State were to conclude that a reasonable worst case number of ATMs might be above 470,400, the difference it would make would not be material. If an additional 9,600 produces a difference of

[724] CW gave the figures at 8% as: Receptor 97 - 39.66 [40.03 at 9%]; Receptor 113 - 39.86 [40.23 at 9%]; and Receptor 114 - 39.99 [40.36 at 9%].
[725] The ACS notes at para. 461 that there was a typographical error in CW's PoE where the figure of 471,400 ATMs is given. The same typographical error has then been transcribed into the SOCG at paras 2.9 and 2.13. The correct figure, and the one that has been used and correctly recorded elsewhere, is 470,400 and nothing of substance arises as a result.
[726] HAL/CW/A/04, p. 1.

only 0.1 µg m^{-3}, anything significantly less than that would be of no conceivable consequence for the purposes of decision-making.

Background concentrations

637. The key issue in terms of background concentrations is what is likely to happen in future, and whether having regard to Defra's most recent predictions in this respect, and the efforts being made by the Government across a range of fronts to reduce emissions, it is to be regarded as realistic to assume no improvements at all by 2017.

638. That is a separate issue from the analysis of past data, unless the Inspector and Secretaries of State start from the assumption that improvements in emissions standards, understanding and technology will yield no benefits compared to the past. It would be a surprising starting point for the Government to adopt. The recent Supreme Court judgment *in R (on the application of ClientEarth) v. Secretary of State for Environment, Food and Rural Affairs* [2015] UKSC 28 means that the Government has been ordered to take action on air quality, producing an action plan by the end of 2015 in order to bring forward the national and regional measures required to resolve the background air quality issue[727]. It is reasonable to assume that any such plan will be well-considered, evidence-based and robust, and expected to reduce background levels of pollutants at a faster rate than would otherwise have been the case.

639. Further and in any event, CW's evidence shows that the annual mean concentrations at the Green Gates monitoring site in Longford between 2011-2014 (average 34 µg m^{-3}, range 33-35 µg m^{-3}) were consistently lower than between 2006-2009 (average 37.8 µg m^{-3}, range 37-38 µg m^{-3}), with 2010 being an outlier[728]. As CW explained, DL's consideration of the statistical significance of the reductions shown by the monitoring data is compromised by the fact that he has used the hourly averages. This will inevitably produce a greater degree of variability, making the identification of trends more difficult. The relevant assessment for both the air quality objective and limit values in this case is by reference to the annual mean concentrations, and hence CW's approach should be preferred.

640. During the Air Quality sessions CW also explained that the works being undertaken on T5 between 2002 and 2004 are likely to account for the levels shown for those years on DL's plots in his Appendix A15[729].

641. So far as the future is concerned, CW's evidence is as summarised in paragraph 2.4.8 of his RPoE: *"... it is unrealistic to assume that emissions and ground level concentrations will not reduce at all between 2013 and 2017, as has been suggested*". Defra's National Atmospheric Emissions Inventory, published in March 2012, shows that emissions projections of air quality pollutants, including NO2, will continue to reduce[730].

[727] See paras. 23 and 35 of the Judgment.
[728] HAL/CW/RP/01, para. 2.4.4.
[729] HIL/DL/P/1, p. 71 of 86.
[730] HAL/CW/RP/01, para. 2.4.10.

642. CW has identified a number of reasons why he regards DL's highly pessimistic view of the realism of the Government's predictions as unrealistic. In summary:

a. The adoption of Euro-VI standards for diesel road vehicles will necessarily lead to a reduction in emissions per vehicle. The emission factors for Euro-VI diesel cars[731] are about one third of those for Euro-V[732], and materially lower still than those for Euro-IV[733] (the cars they will typically be replacing in the national fleet)[734]. Whilst CW has acknowledged that the exact degree of reduction that will be achieved in the real world is uncertain[735], it would be unrealistic to assume it will be nil.

b. Whilst Defra's projections include emission reductions from the transport sector, including from non-road transport, some of the greatest reductions during the next few years are expected to be from "*Combustion in energy industries*" and "*Industrial combustion*"[736]. CW's evidence was that even if one assumes that emissions from the whole of the transport sector remain constant (which is unrealistically pessimistic), Defra's projections show that NOx emissions from all sources would nevertheless fall by over 12% between 2015 and 2020[737].

c. These other "*background*" sources contribute around half of the NOx concentration in Longford[738].

643. For those reasons DL's approach goes beyond what should be regarded as a "*realistic*", "*reasonable*" or "*likely*" worst case.

644. It is not appropriate from a policy perspective to seek to use the Limit Value to justify specific mitigation here. In addition, there are important practical and evidential reasons why it would not be appropriate, which CW set out in his written and oral evidence. They can be summarised as follows:

a. The Pollution Climate Mapping (PCM) modelling, against which it has been necessary to compare the NO2 increment from the proposed development, is a regional model where results are only available for 2012. It provides concentration outputs on a 1x1 km grid together with around 9,000 representative road side values. The model is not normally used to inform development control decision-making, and this is because it is not designed for considering local impacts at the finer resolution required for EIA of a project such as this[739]. The PCM model was developed for a totally unconnected purpose. Hence the output is of a correspondingly coarse nature and of limited utility for development control decision-making in this case (by contrast to the much more accurate modelling used in the ES[740]).

[731] 80mg/km.
[732] 180mg/km.
[733] 250mg/km.
[734] HAL/CW/RP/01, para. 2.4.9.
[735] HAL/CW/RP/01, para. 2.4.7.
[736] HAL/CW/RP/01, para. 2.4.10.
[737] HAL/CW/RP/01, para. 2.4.10.
[738] HAL/CW/RP/01, para. 2.4.11.
[739] HAL/CW/RP/01, para. 3.1.10.
[740] HAL/CW/RP/01, para. 3.1.11.

b. The increments which it does identify on the A4 and A3044 are very small in scale and geographically limited. The largest increase is on a section of the A3044 where there are no specific receptor locations reported by Defra to the EU for compliance purposes[741].

c. The methodology applied at LBH's request is designed to cover the air quality effects of road schemes. This scheme does not affect road traffic in any material way. The methodology also considers receptor locations that do not constitute 'relevant exposure' in terms of the UK air quality objectives, namely they are not locations that represent the facades of residential properties. Instead, they are locations where there is the potential for public access, namely roadside locations that Defra considers in terms of assessing compliance with Limit Values[742].

d. The adverse air quality effects are very localised owing to the influence of aircraft emissions from near the end of Runway 09L; unlike road traffic, aircraft emissions do not have widespread effects across the road network. In this case the development gives rise to both increases and decreases at specific locations on the same road[743].

e. Even if the assessment were considered to be of practical utility for decision-making in this case, it only identifies small and very localised increases, with neutral and beneficial effects at other locations on the same roads. The overall effect will not therefore be to appreciably worsen air quality on these links, or to make it more difficult for the Government to meet the Limit Value.

645. HAL's case is therefore that there is simply no proper justification for requiring specific mitigation by reference to the likely air quality impacts of the Appeal Proposals.

Mitigation

646. HAL is proposing, as part of its UU to LBH, to pay LBH the sum of £540,000 by way of an Air Quality Contribution to be used towards Air Quality Mitigation Measures within LBH's area. These measures are defined as "*measures to improve vehicles used in the bus fleets passing through Longford with the objective of reducing NOx emissions from such vehicles to achieve Euro VI or better emission standards*". LBH is entitled to transfer that sum (or part of it) to Transport for London, for Transport for London to implement the required measures.

647. The sum of £540,000 was arrived at in discussion with LBH. LBH presented HAL with three mitigation measures of increasing cost that LBH accepted were capable of achieving the air quality mitigation LBH considered to be necessary. In recognition of the need for obligations to be "*necessary*" and "*reasonably related in scale and kind to the development*"[744], HAL has properly elected to fund the lowest-cost measure, but which still achieves the mitigation sought by LBH. LBH have

[741] HAL/CW/RP/01, paras. 3.1.4 to 3.1.5.
[742] HAL/CW/RP/01, para. 3.1.8.
[743] HAL/CW/A/09
[744] CD/01/16, para. 204.

accepted HAL's approach and accept that it is sufficient to overcome their objections on Air Quality.

648. During the Air Quality session of the Inquiry, it was explained why HAL has offered to make the contribution even if it is not judged by the Secretaries of State to be necessary[745]. In summary, the position is as follows:

a. HAL's offer is undoubtedly generous, and exceeds what the evidence shows to be necessary having regard to the tests set out in the NPPF[746].

b. However, if a different view is taken of the evidence dealing with necessity, the offer would be effective to deliver meaningful levels of improvement in air quality in Longford. The mitigation proposed is targeted to the area adversely affected, and the levels of improvement anticipated to result are broadly proportionate to the increase in pollutant levels associated with the Appeal Proposals.

c. Importantly, the offer is consistent not only with HAL's track record in taking active and effective steps to reduce the levels of emissions from the Airport, but also with the Heathrow Airport Emission Reduction Blueprint (2015) ("the Blueprint") for achieving further improvements in future[747].

d. CW's evidence explains that the Blueprint has been developed as part of the Heathrow Air Quality Strategy 2011-2020, and comprises a 10 point plan of tangible actions for delivery from 2015 to accelerate, stretch and then add to existing plans to reduce Heathrow's NOx emissions[748]. Action point 6 is as follows:

> *"Working with partners like London Borough of Hillingdon, TfL, GLA and the Highways Agency in a joint effort to reduce emissions from road traffic around the airport."*

e. The summary of how Heathrow will achieve this identifies the following amongst the potential measures:

> *"Working with bus and coach operators to increase the number of hybrid buses."*

f. It is clear that what HAL is proposing to commit to in this case is consistent with its existing Blueprint, and thus the view has been taken that it would be appropriate to take this opportunity even in the event that the

[745] At para. 437 of the ACS it is said that the Inspector and Secretary of State should infer that HAL's unconditional offer means that it accepts that the contribution is necessary. That is simply not correct, and the ACS makes no reference to the clear explanation given in the Air Quality session, and set out above. HAL has made the offer unconditional for exactly the reasons we have given, and has not shied away from dealing with the evidence which goes to the question of necessity. Far from it: as we explain in these Closing Submissions, CW's evidence provides a clear and convincing demonstration as to why the contribution is not properly to be regarded as necessary.
[746] CD/01/16
[747] CD/03/08.
[748] HAL/CW/P/01, para. 7.3.1.

conclusion is reached that it is not strictly necessary and thus cannot influence the decision on whether or not planning permission ought to be granted.

g. Such an approach is consistent with what is said in paragraph 3.51 of the APF, which explains that:

"Road traffic remains the main problem with regard to NOx in the UK. Airports are large generators of surface transport journeys and as such share a responsibility to minimise the air quality impact of these operations. The Government expects them to take this responsibility seriously and to work with the Government, its agencies and local authorities to improve air quality"[749].

Conclusions on Air Quality

649. HAL invites the following conclusions to be drawn:

a. The adverse air quality impacts in this case will not be significant, and they will not be unacceptable.

b. There will be a broadly equivalent improvement in air quality in Stanwell, which demonstrates that the overall impact on air quality where relevant exposure exists is a redistribution of existing levels rather than an overall net worsening of the position.

c. No specific mitigation is required to address the adverse impacts, on the basis that they are not significant and are acceptable without mitigation.

d. If the Inspector and the Secretaries of State do conclude that mitigation is necessary, then the effect of the UU is to secure measures which are agreed to be suitable and proportionate to the scale of the effect (on LBH's case), and satisfactory to make those effects acceptable and thus overcome the RfR on Air Quality.

ADEQUACY OF THE ENVIRONMENTAL STATEMENT

650. This section concerns the legal and procedural issues arising from the LPA's third and fourth RfR, and the evidence of IT on behalf of LBH. The substantive issues arising are dealt with elsewhere.

The Reasons for Refusal

651. In its third and fourth RfRs the LPA alleges that the ES accompanying the Appeal Proposals fails to comply with the requirements of the EIA Regulations such that it falls short of what an ES is legally required to include before it can be considered to be an environmental statement as defined. HAL thus considers the LPA's position is that this is a case of the type described by Sullivan J (as he then was) at the end of paragraph 41 in R (Blewett) v. Derbyshire CC[750], namely:

"... cases where the document purporting to be an environmental statement is so deficient that it could not reasonably be described as an environmental

[749] CD/01/17, p. 65.
[750] [2003] EWHC 2775 (Admin)

statement as defined by the Regulations (Tew was an example of such a case), but they are likely to be few and far between."

652. This is in contradistinction to cases where the alleged shortcomings of the environmental statement are not said to be so significant as to represent a bar to lawful decision-making, which are dealt with at paragraph 40 of the Judgment.

653. However, based on the answers given by IT in XX, HAL considers that the LPA refused planning permission and approached the issues in ignorance of the legal consequences of that position. As JR explained in his evidence, where a decision maker has a concern about the legal adequacy of an environmental statement, their remedy is to seek further environmental information, not to refuse planning permission.[751]

654. The legal framework setting out how planning applications that are likely to have significant effects on the environment must be dealt with are set out in the EIA Regulations,[752] which transpose Council Directive 85/337 EEC (as amended) on the effect of certain public and private projects on the environment (the EIA Directive) into domestic law.

655. Regulation 3(4) prohibits a decision maker, whether a local planning authority, Inspector or the Secretary of State, from granting planning permission for such development "*unless they have first taken the environmental information into consideration…*". The "*environmental information*" is defined by regulation 2 as being:

> "… *the environmental statement, <u>including any further information</u> and any other information, any representations made by any body required by these Regulations to be invited to make representations, and any representations duly made by any other person about the environmental effects of the development*." (emphasis added).

656. There will inevitably be occasions where an environmental statement accompanying an application falls short of the requirements set out in the EIA Regulations. In those circumstances, regulation 22(1) provides that:

> "*A relevant planning authority, Secretary of State or inspector dealing with an application or appeal in relation to which the applicant or appellant has submitted an environmental statement, is of the opinion that the statement should contain additional information in order to be an environmental statement, <u>shall</u> notify the applicant or appellant in writing accordingly, and the applicant or appellant <u>shall provide</u> that additional information; and such information provided by the applicant or appellant is referred to in these Regulations as "further information*". (emphasis added)

657. It is clear that in those circumstances regulation 22(1) places the decision maker under a mandatory duty ("*<u>shall</u> notify*", emphasis added) to request the further information required in order for the submitted ES to be an ES for the purpose of the EIA Regulations.

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[751] HAL/JR/P/1, paras. 5.4 to 5.5, 7.8 to 7.9 and 9.3; and HAL/JR/RP/1, paras. 2.5 to 2.6.
[752] CD/01/15.

658. Regulation 22(7) then provides that:

> "*Where information is requested under paragraph (1) or any other information is provided, the relevant planning authority, the Secretary of State or the inspector, as the case may be, shall suspend determination of the application or appeal, and shall not determine it before the expiry of 14 days after the date on which the further information or any other information was sent to all persons to whom the statement to which it relates was sent or the expiry of 21 days after the date that notice of it was published in a local newspaper, whichever is the later."* (emphasis added).

659. The combined effect of regulations 22(1) and 22(7) is therefore plain. Where a decision maker is of the opinion that a submitted ES is deficient within the terms of regulation 22(1), they are subject to a statutory duty to notify the applicant of that deficiency and the information that the applicant is required to submit to remedy that deficiency. Due to the operation of regulation 22(7), it is not until that information is supplied that the decision maker can proceed to determine the application in accordance with the timescales set out. There is simply no other option lawfully available to the decision-maker in those circumstances.

660. It therefore follows that where an ES is required but not provided, a decision maker is legally precluded from determining the application. Similarly, if a regulation 22(1) request is made to an applicant, but that applicant does not supply the required information, the suspension of determination brought about by regulations 22(1) and (7) would remain in operation. The same would apply if the applicant did purport to provide the information requested, but the LPA formed the view either that that information still fell short of what was required, or that even further information was required to make the ES legally compliant.

661. It must follow from the very terms of the RfRs that in this case the LPA has acted in breach of its statutory duties under the EIA Regulations. IT ultimately accepted this in XX, but in any event it is an inescapable conclusion once one sets the third and fourth RfRs alongside the requirements of Regulation 22. If the LPA was truly of the view, as reflected in the third and fourth RfRs, that the ES was legally deficient, then regulation 22(1) put it under a duty to issue a Regulation 22 request for the further information judged to be required. No such request has been made and no issue has been taken with the legal position as put to IT in XX. Once the legal duty and the reason for refusal are set alongside one another it is an inescapable conclusion that LBH breached its statutory duty and regulation 22(7) would then have prevented the LPA from determining the application unless and until satisfied that the necessary information had in fact been supplied.

662. That should not be in any way a surprising conclusion. It is consistent with the procedural nature of the EIA Regulations, and their role in ensuring that the decision-maker and the public have access to an adequate environmental assessment, and are able to consider the proposal's acceptability having regard to the necessary information, before any decision is made. It is also consistent with the importance of ensuring that those who apply for planning permission are not in effect denied the opportunity for a fully informed decision to be made at local level, with a fair and formal opportunity to be told in advance about any suggested defects in the ES, and given the opportunity through the Regulation 22 process to address them.

663. It follows that the complaints the LPA now makes in its third and fourth RfR are not in fact properly capable of being RfRs at all; those same complaints should have precluded the LPA from reaching that stage in the determination process. Instead, those complaints should have resulted in Regulation 22 requests for further information. IT accepted in XX that in that respect he and the LPA had "*unknowingly breached the duty*".

664. It is no answer to that point to say, as IT did in XX, that a previous request for the information (in relation to cumulative assessment) outside of the Regulation 22 process did not result in HAL providing the information allegedly sought. At best, that merely serves to explain how it was that the LPA found itself in the position whereby its duty under Regulation 22 was triggered. It offers no explanation, let alone excuse, for its subsequent breach of that duty. Nor can the LPA properly suggest (as it now seeks to at paragraph 117 of the ACS) that it did in fact make a Regulation 22 request for an enhanced cumulative assessment. The facts do not allow that conclusion to be drawn.

a. First, the LPA's request in that context was not for a cumulative assessment, but instead it asked HAL to explain why it had taken the view that a cumulative assessment was not required. The nature and format of the request made in the letter of 16 August 2013[753] (which was subsequently treated, by agreement, as a Regulation 22 request[754]) was clear:

i. The introductory passages of the letter explained that *"... prior to formulating a final decision the Council would appreciate <u>further clarification</u> on several aspects of the assessment*" (emphasis added).

ii. Under the first sub-heading "*Cumulative Impacts*" the LPA first set out its concerns and the reasons for them. This then culminated in the first of a series of individually numbered requests for HAL to "*clarify*" various matters, purposely distinguished from the explanatory text not only by their distinct numbering, but also by the use of italicised text:

> *"1A Please clarify how you foresee these proposed operational changes being progressed and how they will be properly assessed before implementation"*

iii. That was the request, and HAL responded by providing the clarification sought[755]. Having considered HAL's response to its request for clarification, the LPA did not make a further Regulation 22 request seeking an enhanced cumulative assessment to cover those potential operational changes in order to make the ES legally adequate.

iv. It is factually inaccurate to suggest that LBH made a Regulation 22 request that HAL refused to comply with[756]. HAL responded to each and every Regulation 22 request that was made of it, and did not refuse to comply in any instance.

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[753] HAL/RTT/A/2, pp. 54 to 61.
[754] Letter from HAL to LBH of 11 October 2013.
[755] HAL/RTT/A/2, pp. 62 to 63, repackaged in HAL's letter of 11 October 2013.
[756] ACS para. 116

b. Secondly, even if (as the ACS apparently suggests[757]) the intention had been to request an actual cumulative assessment itself and the LPA had interpreted HAL's response as a refusal to provide the information, that would not have absolved the LPA of its duty under regulation 22(1) to issue a request for further information, and then to suspend its determination until that further information was received pursuant to regulation 22(7).

665. Nor is it any answer to say, as IT again did in XX, that in those circumstances making a Regulation 22 request could have led to deadlock whereby the LPA requests information and an applicant refuses to produce it such that the application cannot be determined. In those circumstances the LPA would have complied with its statutory duty, and the applicant would have the choice to provide the material sought, or to appeal to the Secretary of State for non-determination, effectively putting the issue of the adequacy of the ES before him. It was not open to the LPA to circumvent the system and remove that choice from HAL.

666. Thus the system does not produce "*deadlock*" in those circumstances, but it does afford the applicant an important procedural opportunity to supply more information at the initial decision-making stage, in response to a formal decision by the LPA that an environmental statement is inadequate. An applicant can, of course, elect to appeal instead to the Secretary of State, but importantly he is not forced to do so. What the system does not allow is for a LPA to avoid its statutory duty, and thus deny an applicant that opportunity to choose.

667. In XX it was suggested to JR that had the LPA complied with its Regulation 22 duty in the present case, HAL would inevitably have appealed to the Secretaries of State rather than complying with the request. JR was clear in rejecting that suggestion. It is right to record that in some instances HAL's case is not only that the additional assessment is unnecessary, but also that it is not capable of being undertaken in any meaningful way. It is entirely possible that HAL would have responded positively where it could do so, a course of action which would have been consistent with the way that it responded to such Regulation 22 requests as were made.

668. In any event, the end result could not properly have been refusal of planning permission because of a desire on the part of the LPA for more information. Nor could that properly be the end result of this appeal, for the same reasons.

669. If the Inspector or the Secretaries of State conclude that the ES is so deficient that it could not properly be regarded as an ES as defined (whether in the ways set out in the third and fourth RfRs, or otherwise), the consequence of such a conclusion would not be dismissal of the appeal and a refusal of planning permission. Rather, the consequence of that would simply be a Regulation 22(1) request for HAL to submit the further information considered necessary, with determination of the appeal suspended until that request had been met.

The health and equalities impact assessment

670. Having considered the procedural points raised by the third and fourth RfRs, we now consider the substantive issues raised.

[757] Paras. 116-117

671. Notwithstanding that the Committee Report considered the HEIA which accompanied the application[758], the third RfR makes no express reference to any concern about the application's approach to its assessment of health effects. It became clear during XX of IT that the LPA's central complaint was that the application documentation, including the HEIA Assessment and ES did not contain sufficient information to allow the decision maker to form a view on the likely health impacts on those persons experiencing significant community annoyance but who did not receive mitigation.

672. HAL's ES deals with likely significant effects and makes it clear that:

> *"Health effects including indirect effects of noise, i.e. stress caused by annoyance and/or health effects of sleep disturbance, and consequent effects on morbidity and mortality, are considered within the Health and Equalities Impact Assessment (submitted with the planning application alongside this ES)."*[759]

673. Insofar as the LPA are arguing that the HEIA (or just a HIA) should have formed part of the ES, HAL rejects that argument as being contrary to the approach adopted to HIA in other projects, including the TTT, as well as to the LPA's own validation checklist, which makes no reference to requiring a HEIA or HIA. No Regulation 22 request was ever made to that effect, and nor does the ACS invite the Inspector and Secretary of State to make such a request now. Furthermore, as is explained in TG's Second Report, the EIA Regulations do not list health as one of the matters that have to be considered[760]. Indeed, the recent adoption of a revised EIA Directive specifically including health as one of the factors that has to be considered in an environmental statement (from 2017) strongly suggests that there is currently no such requirement[761].

674. Furthermore, in terms of the substance, the ES explains that its approach reflects that in the HEIA, assessing the number of people "*annoyed*" and "*highly annoyed*" using a dose response relationship.[762] The ES identifies that as a result of the Appeal Proposals, 50 fewer people will be highly annoyed by aircraft noise, and 100 fewer people will be annoyed.[763]

675. The ACS appears to imply that annoyance and the numbers highly annoyed can simply be correlated with those who are within the contours[764]. If that is what is implied, it is not correct. The correlation is more complex than that, and requires the application of a statistical regression in the number of people at different levels of noise against the proportion of those people who can be said to be "highly annoyed" at those levels. A small change in the noise level may be negligible for the purposes of determining the number of people "highly annoyed", but may move

[758] CD/01/03, sections 7.11 and 7.12.
[759] CD/01/02, para. 6.2.2.
[760] HAL/JR/RP/A/2, pp. 4 to 6.
[761] Whether or not that is the case is ultimately of no consequence for the purposes of determining this case, because as we explain the ES does in fact provide an adequate assessment of possible health effects in so far as is relevant.
[762] CD/01/02, para. 6.7.34.
[763] CD/01/02, p. 91, Table 6.16.
[764] Para. 97

a significant number of people into or out of a particular contour. Therefore to suggest that a single contour or value should be associated with the number of people "highly annoyed" is incorrect. The ES explains how the calculation is carried out, using the dose-response relationship taken from the EEA's technical report 11/2010 "Good practice guide on noise exposure and potential health effects"[765].

676. As the ES explains, these figures have been calculated using guidance published by the European Environment Agency[766]; an approach that reflects that taken within the HEIA. The HEIA sets out the equation to be used to calculate the percentage of people highly annoyed at any given noise level[767]. Although the LPA and IT considered that the HEIA's conversion between LAeq 16hr and Lden was incorrect[768], RTT explained in his evidence that this results from a poor choice of wording in the HEIA; the last sentence of para 5.5.14 of the HEIA should in fact read: "*The LAeq values will be adjusted from Lden by the addition of 2dB to the LAeq value*" (additional text emphasised). There is no calculation or transposition error in the HEIA, or the ES.

677. IT further criticised the ES and the HEIA on the basis that although they allowed the LPA to see how many people were likely to be adversely affected, annoyed or highly annoyed by the Appeal Proposals they did not describe the likely effects the Appeal Proposals would have on those people. That criticism overlooks the important context in which the assessment is undertaken, using the approach that it does.

678. The approach in the ES and the HEIA is clearly informed by Government policy contained in the APF and NPSE, both of which are referred to in the ES.[769]

679. As regards the APF, HAL has explained why it chose 57dB LAeq 16hr as its threshold measure of significance; namely that the APF makes it clear that as a matter of Government policy, 57dB LAeq 16hr is treated as the onset of significant community annoyance. The APF continues, noting that there will be some people who are exposed to noise above that level who are not annoyed, and conversely that there are some people exposed to noise below that level who will be annoyed. As RTT explained, the use of 57dB LAeq 16hr therefore acts a "*proxy*" for the figure of those annoyed as it includes people who will not in fact be annoyed so as to broadly make up for and balance out those it does not include who will in fact be annoyed. Similarly, the APF is clear that it only requires mitigation in the form of insulation to be provided where exposure becomes at least 63dB LAeq 16hr (following an increase of 3dB or more), i.e. at the level all parties to this Inquiry agree represents SOAEL.

680. As regards the NPSE, its Vision is to:

> *"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."*[770]

[765] CD/01/02 p. 77, para. 6.7.34
[766] CD/01/02, para. 6.7.34.
[767] INQ/16, para. 5.5.14.
[768] HIL/IT/P/1, paras. 3.1.8 and 3.5.9.
[769] CD/01/02, pp. 57 to 59.
[770] CD/02/03, para. 1.6

681. It is clear from its text that in formulating the NPSE the Government was clearly aware of the evidence linking noise exposure and health effects,[771] and IT accepted in XX that it in formulating the NPSE, the Government had as its aim the promotion of good health. Similarly, each of the NPSE's Noise Policy Aims are linked to health and quality of life. It follows that if one applies and satisfies the NPSE Policies, one is achieving those aims and avoiding, mitigating or minimising adverse impacts on health as required at the different levels appropriate in each case.

682. The NPSE goes on to define SOAEL as being the "*level above which significant adverse effects on health and quality of life occur*". Both RTT and DF are in agreement that in this appeal, SOAEL is 63dB on a 16 hour LAeq basis[772]. The 63dB LAeq 16hr contour was of course fully assessed in the ES.

683. The first of the NPPF's aims makes it clear that in relation to SOAEL, the aim is to avoid noise exposure at the level of SOAEL or above. The level of 63dB LAeq 16hr adopted by both RTT and DF matches the level in the APF for insulation, and in setting that level in the APF the Government was fully aware of the evidence linking noise exposure to health, and indeed to its own policy in the NPSE which predated the APF.

684. Thus an assessment is adequate if it allows the decision-maker to understand the number of people expected to experience noise at a level which equates to SOAEL or higher, and to judge whether the mitigation and compensation offered to those people will be effective to "*avoid"* the significant adverse effects on health and quality of life associated with noise exposure at such levels.

685. HAL's approach is consistent with that accepted in the TTT decision, in which the Secretary of State made it clear that he considered that insulating at SOAEL (or 63dB LAeq 16hr) met the aim in the NPSE of avoiding significant effects on health[773]. Through its insulation offers HAL is therefore avoiding significant effects on health. It is not clear what further information the LPA considers the Secretaries of State reasonably require to judge the effects on those exposed to noise levels in excess of 63dB LAeq 16hr.

686. IT also expressed concern at the prospect of there being persons experiencing noise levels below 63dB but who would not qualify for noise insulation. Although in his PoE he referred to such people not receiving any form of mitigation, in XX he accepted that while they would not receive insulation, they could in fact benefit from other forms of mitigation, including respite, although restricted himself to saying that it was unclear how many would in fact benefit. However, DF accepted in his own evidence that the evidence of adverse effects on health from exposure to noise levels of below 63dB is "*weak*"[774]. (Inspector's note: the Authorities suggest that this only referred to Figure 3.2 on the previous page and in consequence only dealt with stroke, coronary heart disease and cardiovascular disease). IT accepted in XX that these people would not experience health effects, but would instead suffer annoyance.[775]

[771] CD/02/03, paras. 2.11 to 2.18.
[772] HIL/DF/P/2, p. 56, table 5.1; and HAL/RTT/P/1, para. 8.6.6.
[773] JR EiC, Day 10AM; and INQ/33.
[774] HIL/DF/P/1, para. 3.5.8
[775] IT XX, Day 5PM.

687. It follows that for those exposed to noise levels of less than 63dB LAeq 16hr the LPA's own evidence accepts that evidence of consequent health impacts is weak, and the APF itself, informed by the NPSE, does not require noise insulation measures. For those exposed to noise levels in excess of 63dB LAeq 16hr, which is agreed to represent SOAEL in this case, the APF requires noise insulation measures, and such provision is sufficient to satisfy the requirements of the NPSE. The LPA's concerns over the HEIA are not therefore supported by the evidence.

Cumulative assessment

688. The fourth RfR provides that:

> *"The Environmental Statement fails to provide a cumulative assessment of the proposed development and the associated operational airport changes with the recommendations of the Airports Commission and the ability to operate 'mixed mode' within the existing air transport movement limits.*
>
> *The Environmental Statement therefore fails to comply with Schedule 4 Part 1 (b) of the 2011 EIA Regulations."*

689. The LPA's substantive complaint is that HAL's ES has failed to consider the likely cumulative impacts of the Appeal Proposals with a number of operational measures, and consequently is not an environmental statement within the meaning of the EIA Regulations.

Legal framework of cumulative assessment

690. HAL has already produced a legal Note on this issue which sets out legal framework governing environmental statements in detail.[776] The contents and conclusions of that Note have not been challenged by the Authorities. In XX IT was asked whether he took issue with the conclusions set out in paragraphs 34 and 35 of the Note, and he confirmed that he did not.

691. Regulation 4(6) of the EIA Regulations in combination with Schedule 3, para 1(b) requires authorities in reaching a determination as to the likelihood of significant effects to take into account "*the characteristics of development … in particular … the cumulation with other development*". Similarly, pursuant to regulations 3(4) and 2(1) and Schedule 4, para 4, an environmental statement is required to include:

> *"a description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development…"*

692. Consequently, the purpose of an ES is to consider and assess the likely significant environmental effects of a development. That assessment includes, where appropriate, an assessment of the likely cumulative effects of the development. In forming a judgment as to which other developments ought to be included in any cumulative assessment, it is necessary to have regard to the law and guidance set out in the Note[777]. The Inspector and Secretaries of State are respectfully invited to

[776] HAL/JR/A/5A.
[777] HAL/JR/A/5A

read the Note as a whole, but for the purposes of summarising HAL's position the following matters are emphasised:

a. An ES should include so much of the information in Part 1 of Schedule 4 as is "*reasonably required to assess the effects of the development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile*" (emphasis added) (Regulation 2(1)).

b. The European Commission's guidance on what it is "*reasonable*" to consider in this respect (which IT agreed in XX should be taken into account by the Secretaries of State, but had not been mentioned in his evidence) is that:

> *"... it is only reasonable to consider current events and those that will take place in foreseeable future. Furthermore, the assessment can only be based on the data that is readily available"*[778]*; and*
>
> *"... as stated before, the assessment can only be based on the available information, and in the case of development in the future, that which can reasonably be presumed to go ahead*[779]*"* (emphasis added).

c. In the case of *Commercial Estates Group Ltd. v. SSCLG*[780] the Hon. Stuart-Smith J emphasised that because of the innate flexibility of language he would not attempt to paraphrase or restate the test as described in that guidance, which he noted leaves a lot of freedom to the decision-maker. However, he said that if it was necessary to attempt any further analysis, he would suggest that the question could be phrased as "*whether it would be reasonable to foresee that another development would occur*" (emphasis in original)[781].

d. The Government's guidance on this issue in the PPG is agreed to be that which is most directly relevant to decision-making under the Town and Country Planning Act and the most up to date Government guidance on this issue. In XX IT confirmed that if he had thought that the guidance in the PPG was wrong or inadequate, he would have made that very clear to the Secretaries of State in his evidence. He has not made any such suggestion. The PPG adopts the formulation "*existing or approved*" and also makes references to "*circumstances where two or more applications for development should be considered together*"[782]. That recent, up to date, guidance clearly refers to development that is existing, approved or applied for.

e. The PINS Guidance for Nationally Significant Infrastructure Projects (NSIPs) in Advice Note 9 on the Rochdale Envelope[783] is the only guidance to which IT made detailed reference in his written evidence. The approach taken in the PPG is mirrored by the approach in Advice Note 9, which provides a list of developments that should be considered in a cumulative assessment,

[778] HAL/JR/A/5A, para. 16.
[779] HAL/JR/A/5A, para. 17
[780] [2014] EWHC 3089 (Admin)
[781] Para. 33
[782] HAL/JR/A/5A, para. 19
[783] HAL/JR/A/5A, para. 20.

including projects under construction, projects permitted but not implemented and submitted applications not yet determined.[784] That which is required to be assessed does not extend to "*conjecture about future development*".[785]

f. In so far as IT relied on the contents of Advice Note 9, it was to seek to characterise the measures in issue as being akin to "*submitted application(s) not yet determined*". In that respect it was agreed in XX that:

i. the guidance is referring to an application having been made to a body which has the function of determining it, and thus allowing it to occur;

ii. in this case, having regard to the nature of the future measures in issue, that would mean an application having been made to the CAA and/or the SoST[786]; and that

iii. no such application has been made.

g. The PINS guidance for NSIPs also contains the following important point, which needs to be kept at the forefront of the mind when examining the LPA's case:

"... it should not be forgotten that the purpose of an EIA is to inform the decision making process. The EIA should be clear and practical so that it assists, and not confuses, the decision making process".

693. The level of certainty is also relevant to the question of whether there is sufficient information ("*data that is readily available*" in the European Commission's phrase[787], or information "*which the applicant can, having regard to current knowledge and methods of assessment, reasonably be required to compile*" (regulation 2(1))) about those measures to effectively take them into account in any cumulative assessment. It was made clear in *R (Littlewood) v Bassetlaw District Council* [2008] EWHC 1812 (Admin), at [32] that there needs to be sufficient certainty over the development said to give rise to cumulative effects before any cumulative assessment can be carried out.[788] For a number of the measures relied upon by the LPA there is a critical absence of reliable information as to their precise nature, characteristics or likely effects. Without that information there simply can be no robust, reliable or meaningful cumulative assessment that can provide practical assistance in the decision-making process.

694. It is therefore necessary to form a view in respect of each measure that the LPA considers needs to be included in a cumulative assessment:

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[784] HAL/JR/A/5A, para. 20.
[785] See R (Hockley) v Essex County Council [2013] EWHC 4051, at [102]; HAL/JR/A/5A, para 29.
[786] The Authorities disagree – see INQ 65 Para 32
[787] HAL/JR/A/5A, para 16.
[788] HAL/JR/A/5A, para 33. See also *R (Khan) v. L.B. Sutton* [2014] EWHC 3663 (Admin), in which the Hon. Patterson J, commenting on the *Littlewood* case, said that "*The key is that the environmental statement in the EIA Regulations is only required to include such information as is reasonably required to assess the environmental effects of the development and which the applicant can reasonably be required to compile having regard to current knowledge"* (paragraph 121) (emphasis added).

a. whether it can "*reasonably be presumed to go ahead*" to use the language of the European Commission's Guidance[789];

b. whether data is readily available to enable a robust, reliable and meaningful cumulative assessment that can provide practical assistance in the decision-making process; and

c. whether the other proposal has any realistic potential to give rise to significant cumulative effects when considered together with the proposed development.[790]

695. In HAL's view none of the measures considered below fit into the categories of development that should be included in a cumulative assessment. In no case, although IT appeared to be of the view that HAL's submissions to the AC were in the nature of an application to the SoST[791], has any application been made.

The airspace change process

696. HAL believes that the LPA materially misunderstood HAL's reliance on the airspace change process concentrating on the fact that the airspace change process was not a formal EIA process and that there were differences in the legal framework surrounding it, and the content of the two processes. The thinking appeared to be that HAL's case was that these measures did not need to be assessed here because there would be a full EIA for each measure in due course. However, as was clear from HAL's Note on cumulative assessment[792], the relevance of an alternative approvals process goes to factors a. and b. in paragraph 35 of HAL's Note; in summary, the level of certainty (or otherwise) as to whether the other proposal will occur and the level of certainty (or otherwise) as to the precise nature, characteristics and likely environmental effects of the other proposal.

697. Unless it is to be submitted to the Secretaries of State that the airspace change process is one where the outcome can reasonably be presumed at this stage, seeking to distinguish between it and the parallel system of EIA and consultation which is an integral part of the town and country planning process is of academic interest only. As set out below, the scope and content required of an environmental assessment accompanying an airspace change application is considerable.

698. It is therefore necessary to set out in some detail the legal framework governing the airspace change process that both HAL and the LPA accept applies to all the measures the LPA seeks to be included in the cumulative assessment[793]. Not only does this matter have a bearing on the quality of that approvals process, but it is also relevant to the judgment that has to be formed at this stage as to:

a. the level of certainty as to whether the measure will occur; and

[789] HAL/JR/A/5A, para. 17. The ACS ignores these important words in the EC Guidance.
[790] HAL/JR/A/5A, paras. 17 and 35.
[791] IT XX, Day 5PM ("*Proposals by HAL [to the Airports Commission] have effectively gone to the Secretary of State*" and are "*in effect, an application to the Secretary of State*").
[792] HAL/JR/A/5A.
[793] IT XX, Day 6PM. The ACS does not make reference to this important concession, or reflect upon its consequences for the Authorities' case.

b. the level of certainty as to the precise nature, characteristics and likely environmental effects.

699. HAL has prepared a separate Note setting out the legal duties of the SoST and the CAA in respect of airspace change[794]. Although MB was asked questions on his understanding of that process, it was not suggested to him, nor was any evidence provided claiming, that his understanding was mistaken.[795] Nor did IT suggest that it was in any way incorrect. Furthermore, MB gave evidence to the Inquiry that in preparation for the giving of his evidence he had discussed his understanding of the process with the CAA, who confirmed that they share his understanding of the process.[796] HAL is confident that its own evidence on the nature and operation of this existing and well-established process, given by the only witness to the Inquiry with direct experience of it[797], is correct. HAL is also confident that the SoST, one of the decision-makers for this appeal, and also the ultimate decision-maker in the airspace change process, will be particularly well-placed to reach a conclusion on this matter. HAL notes that the ACS does not include any submission that HAL's evidence as to the nature and scope of the process is incorrect, or that the Inspector and Secretary of State should approach their decision on some other basis.

700. Section 66(1) of the Transport Act 2000 provides that "*The Secretary of State may give directions to the CAA imposing duties or conferring powers (or both) on it with regard to air navigation in a managed area*".[798] Those directions are the Civil Aviation Authority (Air Navigation) Directions 2001 (incorporating Variation Direction 2004).[799] Direction 8 provides that:

> "*Subject to section 70 of the Act the CAA shall perform its air navigation functions in the manner it thinks best calculated to take into account:*
>
> *a. the Guidance given by the Secretary of State on the Government's policies both on sustainable development and on reducing, controlling and mitigating the impacts of civil aviation on the environment, and the planning policy guidance it has given to local planning authorities;*
>
> *b. the need to reduce, control and mitigate as far as possible the environmental impacts of civil aircraft operations, and in particular the annoyance and disturbance caused to the general public arising from aircraft noise and vibration, and emissions from aircraft engines;*
>
> *c. at the local, national and international levels, the need for environmental impacts to be considered from the earliest possible stages of planning and designing, and revising, airspace procedures and arrangements;*
>
> ..."

[794] HAL/JR/RP/A/1
[795] MB XX, Day 9PM.
[796] MB RX, Day 9PM.
[797] In XX, IT confirmed that he had no experience or expertise in the regulation of airports by the CAA/DfT.
[798] CD/01/12.
[799] CD/01/23c.

701. That reflects section 70(2)(d) of the Transport Act 2000, which requires that when exercising its air navigation functions, the CAA must "take account of any guidance on environmental objectives given to the CAA by the Secretary of State after the coming into force of this section". Direction 8 and section 70 therefore place an overarching requirement on the CAA to, among other things, perform its functions taking into account guidance by the SoST on environmental objectives.

702. The relevant guidance is currently found in the Department for Transport's Guidance to the CAA on Environmental Objectives Relating to the Exercise of its Air Navigation Functions,[800] which replaces earlier guidance.

703. Direction 9 of the 2001 Directions sets out the parameters of the airspace change process, and specifically sets out when any "changes to the design or to the provision of airspace arrangements, or to the use made of them, are proposed, including changes to air traffic control procedures, or to the provision of navigational aids or the use made of them in air navigation" must be approved by the SoST. The three circumstances where the SoST has that power of approval are essentially where:

> a. the change or use proposed might have a significantly detrimental effect on the environment;
>
> b. the change or use might have a significant effect on the level or distribution of noise and emissions in the vicinity of a civil aerodrome; and
>
> c. the change or use might have a significant effect on the level or distribution of noise and emissions under the arrival tracks and departure routes by aircraft using a civil aerodrome…

704. It is for the CAA in response to each application to reach a judgment as to whether those criteria are met, such that the approval of the SoST is required.[801] The CAA has published Guidance on the Application of the Airspace Change Process in CAP 725.[802] This sets out in some considerable detail both the process by which changes to UK airspace are implemented and the requirements that have to be satisfied before such changes can be approved. Appendix B contains guidance on "*completing a full environmental assessment of an airspace change*".[803]

705. As noted, MB's clear evidence was that although CAP 725 refers only to "*airspace change*", it governs the procedure for all applications caught by Direction 9, including changes to the use of airspace and changes to air traffic control procedures. There has been no evidence to the contrary advanced on behalf of the LPA or any other party. In XX, IT was taken to TG's report[804], which identifies where an application to the CAA/SoST would be required in relation to each measure, and asked whether there was any dispute as to that fact. He confirmed that there was no dispute as to whether an application would be required in each case.

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[800] CD/01/23a.
[801] MB in response to Inspector's question, Day 9 PM.
[802] CD/04/01
[803] CD/04/01, p 3, para. 7.
[804] HAL/JR/A/5.

706. IT was however at pains to stress that, so understood, an application for airspace change did not fall within the EIA Regulations. In his view, any assessment of the measures he wished to be included in the cumulative assessment under the airspace change process would therefore be deficient as, on his view, the airspace change process does not require the same standard of assessment as is required under the EIA Regulations. The context for consideration of this point is described above. However, when asked to identify what was to be found in a formal EIA process that was not covered within the airspace change process, IT was only able to alight on the latter's lack of express reference to cumulative assessment and public consultation. IT accepted that no measure would be introduced without consultation and environmental appraisal to the SoST's satisfaction.[805] Insofar as an adequate environmental assessment in any case would require consideration of cumulative effects, it has to be assumed that the SoST (acting reasonably, as he must) would require such effects to be assessed before any decision is made. Furthermore, as MB explained, CAP 725 does in fact make reference to the need for the Director of Airspace Policy to proceed in a forward looking manner by "*by taking account of likely future as well as current planned operations…*"[806]

707. It is clear that whilst there are some limited differences between the two, the requirements in Appendix B to CAP 725 would result in an environmental assessment that closely reflects environmental assessment in the planning context, and that a thorough process of public engagement through consultation informed by detailed environmental assessment is intended to form a key element of the decision-making process. The following references make that plain:

a. The Foreword explains that the process has been updated to reflect current legislation and greater public interest in aviation-related environmental matters. It is intended, inter alia, to provide greater clarity in relation to the activities of a consultation exercise and the environmental assessment of any proposed change. Appendix B is said to comprise "*important new coverage of environmental issues*".

b. The detailed guidance on the consultation requirements is set out in the main body of CAP 725, and commences in Stage 2 with the initial process of Stakeholder Analysis[807]. Stage 3 concerns preparation for the consultation, and it is apparent from the guidance that what is intended is a careful, structured and comprehensive exercise ahead of the consultation to ensure that it provides a proper opportunity to gather the views of all of those who might be affected by the proposed change[808]. Stage 4 sets out the requirements of the consultation exercise itself, including the process of recording results, analysing them, modifying the design and undertaking further rounds of consultation, and providing feedback to those consulted[809].

c. Detailed guidance on the environmental assessment is provided in Appendix B "Airspace Change Proposal - Environmental Requirements". The function of the environmental assessment is to provide "*sufficient*

[805] IT XX, Day 5PM.
[806] MB RX, Day 9PM; CD/04/01, Appendix B, p. 5, para. 22(c).
[807] CD/04/01, Stage 2, pp. 4 to 5.
[808] CD/04/01, Stage 3, pp. 6 to 9.
[809] CD/04/01, Stage 4, pp. 10 to 13.

environmental information for public consultation and to inform the decision-making process"[810]. This is reflected in paragraph 19 of Appendix B, which identifies the function as being:

> *"... to ensure that environmental considerations are explicitly addressed and incorporated within the planning and decision making process for an airspace change. This takes into account the statutory duties on the CAA and guidance on environmental objectives promulgated by [the DfT]".*

d. It is important that the environmental assessment is both thorough and complete[811]. The "*Basic Principles*" of environmental assessment set out in paragraph 20 reflect those that one would expect to see applied to an equivalent assessment carried out under the town and country planning process, including:

> "*a) **Purposive** - informing decision making;*
>
> *b) **Rigorous** - applying best available scientific knowledge, including methodologies and techniques relevant to the problem under investigation;*
>
> *c) **Practical** - resulting in information and outputs that assist with problem solving and are acceptable to, and capable of implementation by, Change Sponsors;*
>
> *d) **Relevant** - providing sufficient, reliable and usable information for planning and decision-making;*
>
> *...*
>
> *h) **Participative** - providing appropriate opportunities to inform and involve interested and affected individuals and groups, ensuring that their inputs and concerns should be considered in decision making[812];*
>
> *...*
>
> *m) **Systematic** - resulting in full consideration of all relevant information on the affected environment, of proposed alternatives and their impacts and of measures necessary to monitor and investigate residual effects".*

e. The definition of environmental assessment in the town and country planning process is used, with Appendix B explaining that:

> "*The developer here is understood to be the Change Sponsor, the development is the airspace change and the planning authority is the*

[810] CD/04/01, Appendix B, para. 1.
[811] CD/04/01, Appendix B, para. 12.
[812] See also CD/04/01, paras. 24 and 25 on the need to ensure the assessment includes a non-technical summary to enable members of the public to have access to a description of the effects in readily accessible and non-technical language.

Director, Airspace Policy, or, in exceptional circumstances, the Secretary of State for Transport".[813]

f. The parallel but separate nature of the airspace change process to the town and country planning process is made plain in paragraph 18 of Appendix B, in terms which also have clear implications for the LPA's suggested conditions to bring airspace changes within its control for the first time:

"Airspace changes are subject to the scrutiny of the Process established in the main document rather than those that would govern a project falling within the Town and Country Planning Regulations or those that are subject to a public planning inquiry. ...".

g. Moreover, in some respects, the content of assessments pursuant to Appendix B go beyond those of EIAs. For instance, Appendix B specifically includes consideration of climate change impacts[814], something that the EIA Regulations do not (currently) require.

h. It is therefore clear that very similar principles apply to airspace changes as to formal EIA applications. Moreover, IT accepted that if the SoST considered that in order to conduct a "*rigorous*" and "*systematic*"[815] assessment of any proposed airspace change, a cumulative assessment would have to be carried out, he would no doubt require just such an assessment. The suggestion made to MB in XX that the use of the word "*should*" in CAP 725 meant that the basic principles contained therein cannot necessarily be presumed to be followed involves the entirely unrealistic suggestion that the SoST might be satisfied with an assessment that was inconsistent with the "*Basic Principles*" of environmental assessment. It is hard to see how the SoST could properly be invited to determine this appeal on the basis of such an assumption.

708. The nature and extent of the control exercised by the SoST goes beyond the process of determining applications under the airspace change process, and involves the preliminary step of policy-making. Where previously consideration has been given to making changes to the Government's policy on the measures IT relies upon, that consideration has been accompanied and informed by extensive consultation. For instance, both the possible ending of westerly preference and the introduction of mixed-mode (in whatever form) were considered in the ACC, which was one of the largest consultations undertaken by the Department for Transport. The AC recognises that any change to mixed-mode would require extensive consultation, as would Enhanced TEAM[816], and its recommended review of westerly preference would almost certainly require the same[817].

709. It follows that there is an extensive, detailed and tailored process that must be gone through before any change can be made to airspace or to the use of airspace. As part of that process, the environmental impacts of any proposed change will be

[813] CD/04/01, Appendix B, para 17.
[814] CD/04/01, Appendix B, section 6.
[815] CD/04/01, Appendix B, para 20.
[816] CD/01/26, paras. 5.37 and 5.111, second bullet.
[817] CD/01/26, para. 5.42.

rigorously and systematically assessed, following a framework clearly modelled on that which applies to formal EIA. For none of the measures we consider below has that process even been started; despite IT's opinion to the contrary (namely, that HAL's proposals to the AC were "*in effect, an application to the Secretary of State*"[818]), no applications have been made to the CAA for airspace change and no change can be said to be imminent. Indeed, the preliminary step of Government making a policy decision as to the desirability in principle of any such change has yet to occur. The Government's response to the AC's Interim Report effectively delayed any substantive response on a number of key issues until after the AC's Final Report[819]. It therefore cannot be said that any of the measures below can reasonably be presumed to go ahead.

HAL's submissions on the measures the LPA submits ought to be cumulatively assessed

710. It became clear during the course of the evidence that there is some uncertainty between the terminology employed by HAL and the LPA in their respective PoEs. As a result, what follows attempts where relevant to reconcile the language used in both under the appropriate headings.

711. In each case, HAL directs attention to TG's Report setting out HAL's assessment of whether the various measures are capable of, or suitable for, cumulative assessment[820]. For the reasons below HAL believes it was correct not to include any of these measures in a cumulative assessment.

712. Those measures which appear to be particularly prominent in the thinking of the LPA, as reflected in its suggested draft conditions[821] are addressed below, namely:

a. ending westerly preference;

b. mixed mode

c. enhanced TEAM; and

d. early morning schedule smoothing (increases in the number of night flights).

Ending westerly preference

713. HAL currently operates a system of westerly preference, whereby aircraft continue to land and depart in a westerly direction even when winds are from the east, but are lower than 5 knots. If it were not for the system of westerly preference, Heathrow would switch to easterly operations when winds are from the east, regardless of the strength of those winds.

714. IT's position is that HAL should assess the impacts of the Appeal Proposals cumulatively with the ending of westerly preference. Implicit in that suggestion is that it can reasonably be presumed that westerly preference will come to an end, and/or that an application has been made for the approval needed to enable that to

[818] IT XX, Day 5PM.
[819] CD/01/18.
[820] HAL/JR/A/5.
[821] INQ/43.

happen. However, that position is not borne out by the evidence and history suggests no such presumption can safely be made, even in terms of Government policy-making.

715. This is not a new issue, by any means. In the Inspector's report on T5, he noted the suggestion made "*by several objectors that the time might have come for a review of the westerly preference* ..."[822]. He explained that as part of his consideration of noise issues he would consider:

> *"... whether possible changes in the manner in which Heathrow is operated could reduce any harmful effects of Terminal 5 and if so whether such changes could and should be secured by means of the imposition of conditions"[823].*

716. The Inspector returned to this issue, and westerly preference, in his conclusions. In view of their significance – not just for the issue of whether the ending of westerly preference can reasonably be presumed to go ahead, but also for the wider question of the extent to which it is the role of the town and country planning system to duplicate the separate airspace change process – it is appropriate to reproduce them in some detail here[824]:

> *"21.5.6 In considering measures which might reduce the impact of noise in the context of this report it is essential to draw a distinction between those which are directly related to Terminal 5 and those which are not. There is no doubt that there has been a significant change in circumstances since westerly preference was introduced. Whereas noise from departing aircraft was the greatest problem at that time it is now noise from arrivals which is the greatest concern. I am in no doubt that the introduction of easterly preference at night and possibly throughout the day would benefit more people than it harmed and that this was an important consideration if not the most important one in terms of noise impact. ...*
>
> *21.5.7 However, a change to easterly preference is already under consideration and is clearly independent of any decision on the future of Terminal 5 ...*
>
> *21.5.8 I appreciate that any change to the present system of westerly preference would require public consultation but I also believe that the evidence placed before this inquiry should be taken into account. I heard from a wide range of people and organisations and have been able to consider this issue in considerable depth. On this basis, I have reached the firm view that the continued operation of a westerly preference is not in the best interest of the overall population living around Heathrow and that there is a strong case for the introduction of an easterly preference at night. This would result in a fairer distribution of the impact of landing aircraft which is now the greatest single noise problem around Heathrow."*

717. Those conclusions were reported to the Government following the Inquiry held between 1995 and 1999. Responding to those suggestions, the SoST stated that whilst a proposed change to a rotation system at night had subsequently been

[822] CD/02/1,6 p. 338, para. 21.1.19.
[823] CD/02/16, p. 339, para. 21.1.11.
[824] CD/02/16.

announced, it was intended "... *to conduct a review, as recommended by the Inspector, in respect of westerly preference*"[825]. That was in 2001, and the system of westerly preference (and Government policy support for it) remains in place today.

718. In the 2007 ACC, the Government consulted on whether westerly preference should be retained, replaced with a no preference policy or even an easterly preference.[826] At that time, the Government's "*provisional view*" was that there were "*no strong grounds for disturbing the current practice of westerly preference in any future scenario at Heathrow*".[827] The consultation then asked if consultees agreed or disagreed with the Government's views on retaining westerly preference.[828]

719. The great majority of responses to that consultation commenting on westerly preference supported its retention,[829] and in its 2009 ACD, the Government announced that it was confirmed in its view that westerly preference should be "*retained and continued*"[830] on the basis that the evidence base showed there were "*no strong grounds for disturbing the current practice*".[831]

720. The AC has more recently recommended that due to developments in aircraft technology, specifically in relation to noise on departure, "*the Government should review the need for a westerly preference with a view to introducing a 'no preference' policy*". (emphasis added)[832]

721. It is important to recognise the scope and practical impact of that recommendation. In that respect, the following points are common ground[833]:

a. The AC is not a decision making body, nor is it a policy-making body.

b. It has no statutory function, and no decision-making powers.

c. Instead, it is tasked to "*identify and recommend to Government options for maintaining the UK's status as an international hub for aviation*".[834] Its recommendations are not binding.

d. If the AC recommends a measure, that does not allow it to proceed, and nor would such a recommendation constitute a statement of policy by the decision-maker who would have power to decide whether a measure ought to be introduced.

e. Any recommendations made are a matter for the Government to take into account when it makes decisions in due course about what the policy should be, and it will only be the Government's decisions about what the policy would be that will set the framework for any future decision-making.

[825] CD/04/04, para. 67
[826] CD/01/24, paras. 3.132 to 3.143.
[827] CD/01/24, para. 3.143.
[828] CD/01/24, p. 97, Question 8.
[829] CD/01/25, para. 34.
[830] CD/01/25, p. 6 and para. 73.
[831] CD/01/25, para. 31.
[832] CD/01/26, para. 5.42.
[833] IT XX, Day 5PM.
[834] CD/01/26, para. 1.1.

722. If the policy decision was that it was desirable to end westerly preference, it would then be for the airport operator to assess the environmental effects, and consult those affected, with a view to making an application to the SoST for approval in due course.

723. Those submissions are made here specifically in relation to westerly preference, but of course they apply generally to all of the measures in question and are not repeated below.

724. The recommendation by the AC to Government that it should review the need for westerly preference with a view to introducing a "*no preference*" policy is thus only the first stage of a long and uncertain process. If the Government were minded to take up that recommendation, it would first have to carry out the suggested review, having regard to its likely implications and any views expressed by those with an interest in such a change, and it would need to do so with an open mind. It would then have to decide whether, as a matter of policy, to move to "*no preference*". Unless and until that decision is made, the Government's policy remains in favour of westerly preference.[835] Even if, in due course, following the recommended review, the decision is made to adopt a no preference policy there would still be another significant step in the process before any change could occur; namely an application for approval pursuant to the airspace change process. Neither the policy-making nor decision-making processes can be prejudged at this stage.

725. IT therefore overstated the case when he described the AC as having "*ticked off*" westerly preference.[836] That answer demonstrates a misunderstanding of the role, function and power of the AC and the stages that would have to be gone through before any of the measures IT wished to be included in the cumulative assessment could actually be implemented.

726. There is no adopted or draft policy supporting the ending of westerly preference. IT accepted that the LPA would "*do all it could*" to prevent westerly preference ending and would seek to persuade the SoST not to end the current preference[837]. IT also accepted that the SoST would only decide to proceed with adopting a measure if it were in the public interest, and that the SoST would approach that decision, and any other such decision, with an open mind. In those circumstances it cannot reasonably be presumed that westerly preference will come to an end.

Mixed Mode

727. Mixed mode is specifically singled out in the fourth RfR. IT was clear in his evidence that by "*mixed mode*" the fourth RfR meant any form of mixed mode beyond the current use of TEAM, thus encompassing Enhanced TEAM and "*full*" mixed mode. IT suggested that it would also include TEDM – which was trialled as part of the Operational Freedom trials – but seemed also to accept that TEDM was not being pursued and thus cannot reasonably be presumed to go ahead so as to make it appropriate to be included in any cumulative assessment. If any doubt remained, MB confirmed that TEDM was not being pursued due to its complexity

[835] MB RX, Day 9PM.
[836] IT RX, Day 6AM.
[837] IT XX, Day 6AM.

and need for redesigned departure routes to remove the risk of conflicting departure routes.[838]

728. In 2007 the Government consulted on the possible introduction of mixed mode. A considerable portion of the ACC considered mixed mode[839] asking three questions relating to mixed mode including the noise and air quality impacts of mixed mode, as well as various options short of "*full*" mixed mode.[840] At that point, the Government had not expressed a preference; while it considered mixed mode to be "*feasible*" it recognised the impact it would have on the benefits associated with runway alternation.[841]

729. In 2009, following that consultation, the Government announced in the ACD that it did "*not support the introduction of mixed mode on the existing runways as an interim measure before a third runway*".[842] The Government recognised that the "*strong majority response was one of opposition to mixed mode in any form …*".[843] It concluded:

> *"… on balance, that the benefits of mixed mode do not outweigh the impacts on those who would be adversely affected by its implementation. [The Secretary of State] has therefore decided not to support the introduction of mixed mode at Heathrow as an interim measure pending construction of a third runway."*[844]

730. The adverse effects were, primarily, that mixed mode "*would require the practice of runway alternation to be suspended, resulting in communities under the final approaches being subject to perpetual noise throughout the day*".[845] The same concerns about the impacts of mixed mode, and the same benefits, apply equally today.

731. MB addressed the issue of mixed mode. He explains that HAL "*is not advocating the use of mixed mode as a short-term measure to increase capacity*" in its submission to the AC, and moreover "*has no plans to seek to implement mixed-mode operations at the airport*".[846] HAL's position could hardly be clearer. Nor could the position of the AC, who specifically ruled out mixed mode as a short term measure in their Interim Report[847].

732. The LPA's line of questioning of MB with regards to mixed-mode and its likelihood was predicated on the basis that HAL had not ruled out mixed-mode as an interim measure to increase capacity *in the event of R3 coming about*, and that therefore mixed-mode should be included in HAL's assessment (now reflected in the ACS at paragraph 200). Necessarily implicit in that approach is that it is linked to the certainty or otherwise of (at least) a Government policy decision in favour of R3.

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[838] MB RX, Day 9PM.
[839] CD/01/24, paras. 3.90 to 3.128.
[840] CD/01/24, p. 87, Question 5; p. 88, Question 6; and p. 91, Question 7.
[841] CD/01/24, para. 3.116.
[842] CD/01/25, p. 6.
[843] CD/01/25, para. 26.
[844] CD/01/25, para. 70.
[845] CD/01/25, para. 69.
[846] HAL/MB/P/01, para. 5.3.4.
[847] CD/01/26, para. 5.111.

However, as MB made clear, at this stage there is "*very little*" certainty over even Government support *in principle* for R3, let alone any grounds for a reasonable presumption that such a development will go ahead.[848] Furthermore, there has been no suggestion from the LPA that a potential R3 should be included in the cumulative assessment.

733. The following conclusions may be drawn:

a. It is common ground that there is no adopted or draft government policy support for the introduction of mixed mode at Heathrow[849].

b. No such policy could be introduced without a prior process of assessment of its environmental implications, and appropriate consultation. In this respect it is common ground[850] that:

i. the very fact of the earlier Government policy-making process on mixed mode *demonstrates* that the SoST considers that he has control over whether or not such measures are taken;

ii. there is an established process of Government making policy decisions on such matters *before* any formal applications are made, with those policy decisions themselves involving wide consultation;

iii. the *Government* is best placed to decide such matters;

iv. it is safe and correct to proceed on the assumption that the SoST will approach any such decision with an open mind;

v. it is the LPA's view that mixed mode is undesirable, that the environmental effects would militate strongly against a change of policy, and that it would do all that it reasonably could to persuade the SoST of those points if it ever were to be *proposed*;

vi. previous consideration shows that he is quite capable of making decisions in relation to *mixed* mode that reflect the LPA's views; and that

vii. in those circumstances it would not be reasonable to presume mixed mode will go ahead.

c. When mixed mode has been considered by Government in the past, the conclusion has been reached that the adverse effects outweigh the benefits, and that Government policy should not support its introduction. There is no evidence that the essential factors that led to that decision are materially different now.

d. HAL is not supporting the introduction of mixed mode at Heathrow, and has no plans to seek approval for its implementation.

e. No application has been made for the airspace changes that would be needed to implement mixed mode.

[848] MB RX, Day 9PM.
[849] IT XX, Day 5PM.
[850] IT XX, Day 5PM.

f. If any application were to be made in due course, it would have to be accompanied by a rigorous and complete environmental assessment and consultation of those affected. The outcome of that assessment and consultation cannot of course be known at this stage.

g. Any decision on the introduction of mixed mode would have to be made by the SoST, taking account of the likely significant environmental impacts, and the views of those potentially affected. The SoST would approach any such decision with an open mind.

734. It follows that it would be wholly unrealistic and unreasonable to treat the introduction of mixed mode operations as something "*which can reasonably be presumed to go ahead*".

735. Furthermore, the introduction of mixed mode would require considerable work to redesign the airspace and to update operating schedules, and changes to air traffic control procedures. In the absence of any available data to enable those changes to be identified with any degree of certainty, there is also insufficient information to enable any meaningful and practically useful assessment to be undertaken[851].

Enhanced TEAM

736. Although mentioned above under the heading “Mixed Mode”, HAL does not consider TEAM or Enhanced TEAM to properly be characterised as Mixed Mode. TEAM is the name given to the tactical operational practice that allows arriving aircraft to temporarily break alternation and use both runways for landings. TEAM is deployed only where there are delays in arrivals of over 20 minutes and where its deployment will not adversely impact on the rate of departures[852]. Enhanced TEAM was a measure trialled as part of the Operational Freedom trials as an extension to the existing TEAM practice, whereby the trigger point was shortened to 10 minutes[853]. As MB explained, his definition of Enhanced TEAM also included the landing of A380s and Terminal 4 arrivals on the southern runway.[854]

737. IT accepted that Enhanced TEAM, insofar as it relates to landing arrivals on the departures runway, was a tactical measure, but persisted in claiming that it was capable of being assessed in a cumulative assessment. It is however entirely unclear how such an inherently unpredictable measure could be assessed in any robust and meaningful and practically useful way. IT was not able to assist with the assumptions that would have to be used.

738. Moreover, as explained in HAL’s Note on the inclusion of TEAM within noise assessment[855], the effect of TEAM is to “*average out*” across both runways and therefore the operation of TEAM is unlikely to affect LAeq 16hr contours. The same principle would apply to the operation of Enhanced TEAM – it would not affect the noise contours.

[851] HAL/JR/A/5 paras. 3.4.4 and 3.4.7
[852] HAL/MB/P/1, section 3.6.
[853] HAL/MB/P/1, paras. 5.2.19 to 5.2.22.
[854] MB XX, Day 9PM.
[855] Submitted to PINS on 24 June 2015

739. Further and in any event, Enhanced TEAM is not a measure which can realistically be presumed to go ahead. The Government has deferred consideration of Enhanced TEAM until after receipt of the AC Final Recommendations[856]. Although those recommendations have very recently been received[857], the Government's response to the AC's Final Recommendations is not expected until Autumn 2015 and there is no certainty (or even indication) at this early stage as to what the Government's response to those recommendations will be.

740. Even if the Government was in due course to decide that it supported the introduction of Enhanced TEAM in principle, it would still be necessary to seek approval from the CAA/SoST for the necessary airspace changes. That would require environmental assessment and consultation before any decision was actually made that would allow Enhanced TEAM to be put into operation on a permanent basis.

741. The following conclusions may be drawn:

a. There is no adopted or draft government policy support for the introduction of enhanced TEAM at Heathrow. It is not possible to make any robust assumptions about whether such policy support is likely to be forthcoming in the future.

b. No application has been made for the airspace changes that would be needed in order to introduce Enhanced TEAM.

c. The effects of Enhanced TEAM would be unlikely to have any impact on noise contours that average noise across the day, but if an application for the introduction of this measure were to be made in due course, it would have to be accompanied by a rigorous and complete environmental assessment and consultation of those affected. The outcome of that assessment and consultation cannot of course be known at this stage.

d. Any decision on the introduction of enhanced TEAM would have to be made by the SoST, taking account of the likely significant environmental impacts, and the views of those potentially affected. The SoST would approach any such decision with an open mind.

742. It follows that it would be wholly unrealistic to treat the introduction of Enhanced TEAM as something "*which can reasonably be presumed to go ahead*".

Early morning schedule smoothing

743. As MB explained, early morning schedule smoothing is one way of dealing with the high demand for landing slots from aircraft that arrive at Heathrow to land at 06:00.[858] Currently Heathrow manages this demand by landing arriving aircraft on both runways. However, an alternative approach is to allow for more arrivals in the 05:00 to 05:59 period, thus smoothing out the demand over a longer period, allowing runway alternation to be maintained. The measure in question here is not the introduction of such smoothing, but merely the possibility of a trial being carried

[856] CD/01/18.
[857] On 1 July 2015.
[858] HAL/MB/P/01, paras. 5.2.13 to 5.2.18.

out to determine the likelihood of potentially significant environmental effects occurring if this was to be adopted on a permanent basis[859].

744. In his PoE and oral evidence, IT referred to this as putting an end to the routine use of both runways for arrivals between 06:00 and 07:00, the same language HAL used in its submission to the AC.[860]

745. Although the AC recommended a *trial* of early morning smoothing, the Government's statement has deferred making any decision on even a trial until after the publication of the AC's final recommendations[861].

746. A trial would itself require dispensation from the night noise regime before it could take place.[862] IT accepted that in those circumstances there could be no certainty that even a trial would take place,[863] and MB confirmed that HAL had "*no plans for the trial*" and that he was "*not confident [a trial] would lead to adoption of permanent early morning schedule smoothing*".[864]

747. Furthermore, any move to early morning schedule smoothing would require changes to the existing night flights regime, as it would result in flights being moved into the period covered by that regime.

748. The relationship between the town and country planning regime and the night noise regime was also an issue considered by the Inspector at T5. The Inspector identified concerns over the effects of noise at night, and suggested that consideration should be given by the Government to a change to the night noise quota period[865]. He did not, however, recommend that this should be controlled through the planning regime through the use of conditions.

749. Responding to that report, the SoST noted his (and the Inspector's) awareness that "*powers exist outside the planning regime to regulate noise from aircraft at night*"[866], and identified that regime as being the appropriate forum for considering potential changes to the period covered by the night noise quota[867].

750. As explained above, any future application to introduce early morning schedule smoothing on a permanent basis (if that was considered desirable in principle following assessment of the outcome of any trial) would need to involve a rigorous and complete environmental assessment, and extensive and thorough public consultation. Approval would need to be given by the SoST.

751. In addition, there is insufficient information available as to the form it might take, for it to be subject to a reliable and robust assessment at this stage[868].

752. The following conclusions may be drawn:

[859] HAL/JR/A/5, para. 3.3.5
[860] LBH/IT/P/1, para. 5.2.4; HAL/MB/A/15.
[861] CD/01/18.
[862] HAL/JR/A/5, para. 3.3.6.
[863] IT XX, Day 6AM
[864] MB RX, Day 9PM.
[865] CD/02/16 p. 372, paras. 21.5.15-21.5.17.
[866] CD/04/04, para. 65.
[867] CD/04/04, para. 66
[868] HAL/JR/A/5, para. 3.3.8.

a. There is no adopted or draft government policy support for a trial of early morning schedule smoothing at Heathrow, let alone its permanent introduction. It is not possible to make any robust assumptions about whether such policy support is likely to be forthcoming in the future.

b. HAL is not seeking to progress a trial of early morning schedule smoothing at Heathrow at the current time[869] (let alone to implement it on a permanent basis).

c. No application has been made for the dispensation from the night noise regime that would be needed just to undertake a trial.

d. If (following any trial) an application for the permanent introduction of this measure were to be made in due course, it would have to be accompanied by a rigorous and complete environmental assessment and consultation of those affected. The outcome of that assessment and consultation cannot of course be known at this stage.

e. Any decision on the introduction of this measure would have to be made by the SoST, taking account of the likely significant environmental impacts, and the views of those potentially affected. The SoST would approach any such decision with an open mind.

Redefinition of departure routes and Performance Based Navigation

753. IT dealt with these matters under his headings of "*redesigning the airspace local to Heathrow and the London Terminal Manoeuvring Area*" and "*changing the policy of concentrating aircraft on only a few flight paths to using a greater number of routes…*".

754. Performance Based Navigation (PBN) allows aircraft positioning to be improved. By utilising GPS rather than ground based navigational aids, it allows aircraft to fly more closely to departure routes than is possible at the moment. As MB explained, PBN is in practice closely aligned with redesigning departure routes, as the greater accuracy of PBN opens up opportunities for designing better departure routes more suited for that enhanced precision[870]. Thus the two measures in practice fall to be considered together, and this was indeed how the matter was addressed by the LPA both in IT's evidence and in XX of MB.

755. PBN requires airlines to equip their aircraft with the required technology in order for them to operate PBN. As MB explained, while most aircraft operating at Heathrow have some form of the technology, not all of them do at present, and the nature (and degree of accuracy) of that technology is not uniform across the fleet[871]. The complete adoption of PBN is therefore to some considerable extent in the control of the airlines.

756. Furthermore, by its very nature, a high degree of precision is required as to the exact routes that would be flown before any meaningful and practically useful assessment can be made of the effects of flying using those routes rather than

[869] HAL/JR/A/5, para. 3.3.7.
[870] HAL/MB/P/1, paras. 5.2.29 to 5.2.33.
[871] MB EiC, Day 8PM

those which currently exist. Even a small change in route alignment could result in a material change in the impacts.

757. Neither HAL nor NATS have yet designed any routes, and as MB explained the work undertaken so far has been to test concepts only. No application has been made by HAL to change its airspace. IT took the view that because the AC had recommended these measures and because HAL was expecting to implement them in 2019/2020[872] it must therefore be possible to assess their impacts, by "*extrapolating from data*". However there is a distinction between the AC's recommendation as to the *principle*, and the *practical* design of new routes – a process that is still very much in its earliest stages, with currently no detailed designs to facilitate any of the revisions that would be needed to departure routes.

758. HAL's understanding - on the basis that IT accepted in XX that work had simply not progressed to a stage at which an assessment could be carried out ("*I don't know how you could [assess] it*") was that the LPA accepted that it was not practically possible to include PBN[873] and redesigned departure routes in any meaningful cumulative assessment. However, notwithstanding that clear and unequivocal concession by IT, in its questioning of MB (and now in the ACS at paragraph 187), the LPA has sought to reanimate this element of its case by suggesting that, by reference to the notional routes that might have been used for the version of R3 for the purpose of assessment in the ACC, it would have been possible to assume routes and explain any caveats on that assessment. That approach is not properly open to the LPA on its own evidence.

759. a. First, as MB explained, to assess the potential implications of R3 it is obviously essential to make assumptions about the potential routes that would be flown by aircraft using it. Thus, applying regulation 2(1) of the EIA regulations, such information is "*reasonably required to assess the environmental effects of the development*" in contemplation. A great deal of detailed work was needed by NATS and others in order to arrive at appropriate assumptions that would facilitate an assessment of R3, but that was proportionate and thus reasonable because the making of such assumptions was absolutely essential to a meaningful and practical assessment of effects of the development being considered in that case. That simply does not apply to a decision on the implementation of the ending of the Cranford Agreement.[874]

760. b. Secondly, the impacts associated with redesigned departure routes and PBN are highly specific to the routes chosen. MB explained that it was "*very difficult*" to assess impacts without accurate routes, and that he had "*no confidence at all*" that any assumed routes would reflect the routes that would actually be adopted in due course.[875]

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[872] We note the ACS describes the introduction of new NPRs as something "imminently to take place" (para 374). Whether or not something anticipated in four to five years' time is properly to be described as 'imminent' is neither here nor there for present purposes. What matters is the complete absence of any data and other information which could sensibly be used to produce any reliable and useful assessment of this potential change at the present time.
[873] IT XX, Day 6AM.
[874] MB RX, Day 9PM.
[875] MB RX, Day 9PM.

761. c. Thirdly, in a different context the LPA was highly critical of the level of detail contained in the ACC in terms of its assessment of noise impacts.[876] The LPA cannot consistently claim that that approach was sufficient for cumulative assessment but not for assessing noise impacts.

762. In those circumstances there can be no utility in assuming notional routes simply for the purposes of including these measures in a cumulative assessment; that assessment would in no way serve to assist in the practical business of decision-making in this case.

763. The following conclusions may be drawn:

a. No detailed work has so far been done to design any alternative routes.

b. No application has been made for the airspace changes that would be needed in order to allow any different routes to be adopted.

c. If an application for the introduction of this measure were to be made in due course, it would have to be accompanied by a rigorous and complete environmental assessment and consultation of those affected. The outcome of that assessment and consultation cannot of course be known at this stage.

d. Any decision on the redesign of London's airspace based on PBN would have to be made by the SoST, taking account of the likely significant environmental impacts, and the views of those potentially affected. The SoST would approach any such decision with an open mind.

764. It follows that it would be wholly unrealistic to treat the introduction of airspace design based on PBN as something "*which can reasonably be presumed to go ahead*" and there is quite plainly insufficient information to allow any robust, meaningful or practically useful assessment to be made of the implications of this measure.

Airport Collaborative Decision Making (ACDM)

765. ACDM was implemented in 2013. As MB explains, ACDM allows better decision making and principally allows for better departure management, resulting in better managed departure flows at Heathrow.[877] Ultimately therefore, and as IT accepted, all ACDM affects is the order in which aircraft depart; not the number or frequency of departures. IT accepted that as a result, ACDM could make no material difference to any assessment.

Improved schedule adherence and arrival management

766. IT considered this under the heading of "*reassessing the policy of 'first come, first served'*". The essential result of this is to reduce stacking by encouraging better schedule adherence by arriving aircraft. Consequently, IT accepted "*on the face of it*" that it could make no material difference to an assessment of impacts in the vicinity of the airport. No basis for concluding otherwise was identified in RX.

[876] DF XX, Day 1PM
[877] HAL/MB/P/01, paras. 5.2.10 to 5.2.12.

Time based separation

767. Traditionally, arriving aircraft have been separated by distance. This meant that in high winds the time between arriving aircraft increased due to their relatively reduced speed. Time based separation replaces distance separation with time separation such that the time between arriving aircraft remains roughly constant regardless of wind conditions. This improves resilience and has the potential, at most, to result in up to five more aircraft landing in any one hour when they would previously have landed in the following hour[878]. As with TEAM, it is a tactical measure.

768. Although IT expressed the view that this measure could result in changes to the contours, DF presented no evidence of this and IT accepted that he had not asked DF to confirm his view. In reality, time based separation does not result in more scheduled arrivals, instead, it is a different way of regulating the distance between those arrivals, and hence their frequency. As it does not result in a greater number of arrivals, or changes in their routing, it can have no effect on the noise contours discussed at the Inquiry.

Early vectoring

769. Early vectoring was one of the measures trialled as part of the Operational Freedom trials, but it is not a recommendation of the AC and is not specifically mentioned in the fourth RfR. In any event, HAL has elected not to progress it at this time, and is not committed to it, as MB confirmed.[879]

770. In the ACS the Authorities refer to the AC's support for early vectoring "*as long as it forms part of a permanent airspace structure*" (i.e. following the "*re-definition of its departure routes*")[880]. However, all that does is bring one back to the insuperable difficulties associated with trying to make a meaningful, robust and useful assessment of re-defined departure routes when there is no way of knowing where those routes will be. Assessing the use of early vectoring in that entirely unknown factual context is thus neither practically possible nor useful for the purposes of informing decision-making.

Conclusion on cumulative impacts

771. HAL's evidence is that there is no need for any of the measures relied upon by the LPA to be included as part of a cumulative assessment of the Appeal Proposals. In each case, the measure in question is either insufficiently certain to occur, and/or insufficiently certain as to its precise nature, characteristics and likely environmental effects, and/or has no realistic potential to give rise to likely significant environmental effects when considered together with the proposed development.

772. In those circumstances, HAL was plainly and demonstrably correct not to include those measures within its cumulative assessment.

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[878] HAL/MB/P/1, paras. 5.2.48 to 5.2.50.
[879] MB RX, Day 9PM
[880] ACS para. 144.

THE NOISE BARRIER AND THE GREEN BELT

Introduction

773. The fifth RfR alleges that the Noise Barrier, by virtue of its height and overall size, would represent an incongruous and visually dominant form of development and would harm the character and appearance of the wider area and detract from the openness of the site and therefore be harmful to the Green Belt.

774. HAL's Opening Submissions[881] noted that it was still unclear whether, if the LPA's other objections to the Appeal Proposals fell away the LPA was still maintaining that the noise barrier should not be permitted. AW's evidence revealed that, if the LPA's other objections fell away or were met then the LPA accepted the noise barrier should be permitted.[882] This position is now reflected in the ACS at paragraph 87.

775. Nevertheless, as part of the land within which the noise barrier would be located lies within the Green Belt, HAL's case in relation to the Green Belt and visual impact issues is summarised below, by reference to the sub-issues identified by the Inspector following the pre-inquiry meeting.

Is the noise barrier inappropriate development within the Green Belt?

776. JR's evidence is that the noise barrier is not inappropriate development[883]. By reference to paragraph 89 of the NPPF, he relies upon the exception identified for the replacement of a building (which would include a structure such as a noise barrier) provided the new building is in the same use and not materially larger than the one it replaces.

777. The new structure will have the same function and thus use as the one it replaces, i.e. as a barrier to shield the residents of Longford from noise. Whilst it is larger than the existing structure, AW accepted that it could not be any lower and had to have a Green Belt location[884]. Furthermore, the use of transparent material for the majority of the increment in scale – a finishing AW confirmed the LPA would wish to see[885] – means that the increase is not material in the context of its potential effect on Green Belt purposes.

778. JR also made reference to paragraph 90 of the NPPF, which provides for an exception for local transport infrastructure which can demonstrate a requirement for a Green Belt location, provided it preserves the openness of the Green belt and does not conflict with the purposes of including land in the Green Belt. In summary, he draws the following conclusions:

    a. the noise barrier is ancillary to transport infrastructure and is proposed for the localised benefit of nearby residents;

    b. whilst AW accepted that the PRT was local transport infrastructure, he sought to draw a distinction between it and the Noise Barrier - but not only is

[881] INQ/3, para. 40.
[882] AW EiC, Day 7 PM
[883] HAL/JR/P/1, paras. 8.56 to 8.60.
[884] AW XX, Day 8AM.
[885] AW XX, Day 8AM

the distinction artificial (both serve the international airport and both have an important local amenity and transport function), as he acknowledged it does not have any bearing on the purposes of including land within the Green Belt;

c. the options testing process has shown that the Noise Barrier requires a Green Belt location[886]; and

d. by replicating and replacing an existing barrier, there is no significant impact on the openness of the Green Belt.

779. For those reasons HAL invites the Inspector and Secretaries of State to conclude that the noise barrier would not constitute inappropriate development. However, in the event that the barrier is found to be inappropriate development the position is considered further below.

The effect of the noise barrier on the openness of the Green Belt

780. In the light of the evidence, the following conclusions may be drawn:

a. The principle of a "*barrier*" in this location is already firmly established. The existing noise barrier represents a deliberate physical and functional barrier to contain activities along Wright Way and within the T5 car park, and marks a separation between those airport related activities and the riverside environment, which sits to the rear of Longford Village.

b. In addition, as the Inspector will have seen from his site visit, the existing noise barrier is far from the only structure in this location which acts to create and reinforce that division.

c. The purpose of using a transparent material in the upper sections is to minimise any effect on openness and any visual intrusiveness. There would inevitably be some increase to the sense of enclosure, but not materially so having regard to the existing separation.

781. For those reasons HAL invites the Inspector and Secretaries of State to conclude that there will be no material harm to the openness of the Green Belt.

The effect of the noise barrier on the character and appearance of the area

782. In the light of the evidence, the following conclusions can be drawn:

a. The character of the area is principally informed by the existing, deliberate, boundary between the airport and its associated infrastructure and the more informal setting of the Duke of Northumberland River in Longford village.

b. The incremental changes brought about by the noise barrier would be limited and their effect would be to largely reinforce the existing character and appearance of the area. Indeed, the reinforcement of that separation would be to the benefit of the character, appearance and environment of the village.

c. As JR explained, and the Inspector will have seen from his site visit, Longford village tends to turn its back on the airport. The Conservation Area

[886] HAL/JR/P/01, paras. 8.46 to 8.50; CD/01/02, section 3.2.13.

is largely inward looking, and its south eastern boundary is marked by established trees and vegetation which are largely effective even in the winter months in screening views of the airport and its associated infrastructure.

d. The character of the open area between the car park and Longford Village is formed by the narrow riverside environment, a small "pocket park" and the rear gardens of residential properties. The south and eastern boundaries of that area are currently characterised by existing fences and tree planting - there would be no significant change in character or appearance.

e. There is no dispute as to the form of the barrier proposed, which reflects pre-application discussion with officers. The appropriate details are agreed to be capable of being resolved by condition[887].

783. For those reasons HAL invites the Inspector and Secretaries of State to conclude that the proposed noise barrier would be consistent with the character and appearance of the area.

Whether very special circumstances exist to justify the noise barrier[888]

Approach

784. A useful summary of the approach is to be found in the judgment of Mr Stephen Morris QC (sitting as a Deputy High Court Judge) *in R (Wildie) v. Wakefield MBC* [2013] EWHC 2769 at [29]:

> *"The correct approach to the very special circumstances test is to ask the following question ...*
>
> > *"Given that inappropriate development is by definition harmful, the proper approach [is] whether the harm by reason of inappropriateness and the further harm ... caused to the openness and purpose of the Green Belt was clearly outweighed by the [countervailing benefit arising from the development] so as to amount to very special circumstances justifying an exception to the Greeen Belt policy""*

785. Further assistance has been given by the Court of Appeal's judgment in *SSCLG v. Redhill Aerodrome Ltd* [2014] EWCA Civ 1386, which makes clear that the reference to "*any other harm*" in the second sentence of paragraph 88 of the NPPF is not limited to any other *Green Belt* harm. Thus the weighing exercise that is called for involves weighing all harm against all benefits associated with the proposed development.

786. As part of that weighing exercise, it is necessary to decide how much weight to attach to the harm that would be caused to the purposes of including land within the Green Belt. In order to do that properly in this case it is necessary to consider the unusual circumstances surrounding the small island patch of Green Belt land on which part of the barrier is to be built.

[887] AW XX, Day 8AM.
[888] HAL/JR/P/1, paras. 8.75 to 8.85.

787. JR has dealt with this in his PoE, and explained the position in his oral evidence[889]. The factual matters on which he relied are not in any material way controversial. In summary, they show the following:

a. Although parts of the Noise Barrier would be located within the Green Belt, the affected area is far from being a typical Green Belt location. There are a number of developments in the area all of which detract from its openness, including the existing noise barrier, the T5 business car park and its fence and the PRT.

b. The existing noise barrier and fence surrounding the T5 business carpark were consented as part of an application for works associated with the diversion of the Duke of Northumberland's River and the Longford River which itself arose from a condition attached to the T5 consent.[890] Although both are located in the Green Belt, no objection was taken to their construction.[891] AW accepted that in the case of the existing barrier, it was thought to be a benefit to screen Heathrow's operations[892].

c. Permission was then granted for a 1,000 car parking space extension to the then 430 space T5 business car park within the Green Belt. Nonetheless, that extension was considered to be acceptable due to the LPA's previous recommendation that the land upon which it was to be constructed (to the south of the realigned river) be removed from the Green Belt and that the realigned river formed a new and logical Green Belt boundary such that taken together with the application's benefits, VSC were found to exist.[893]

d. The PRT was consented in 2006 and carries passengers between the T5 business car park and T5 via a 1.4km raised guideway. Its visual impact is well illustrated by the figures appended to the ES.[894] Again, VSC were found to exist in the Committee Report.

e. The Green Belt boundary in this location was correctly characterised by the LPA's own officers as "*illogical*"[895], following the substantial physical changes in the geography of the locality that had been introduced by the re-alignment of the Duke of Northumberland's River. LBH's own officers took account of this factor in the report to Committee on the car park extension. That has since only been exacerbated by the development that has subsequently been approved on that land. It is only the absence of an opportunity for the plan-making process to examine Green Belt boundaries since that change that has left this anomalous patch of Green Belt in place for the time being.

788. As JR explained in EiC, that background must serve to reduce the weight that is attached to any Green Belt objection in this case. To treat these matters as

[889] HAL/JR/P/01, paras. 8.16 to 8.23.
[890] HAL/JR/P/01, paras. 8.7 to 8.9.
[891] HAL/JR/P/01, para. 8.10(iii).
[892] AW XX, Day 8AM.
[893] HAL/JR/P/01, paras. 8.11 to 8.12
[894] CD/01/02, Appendix V, Viewpoint 4.
[895] HAL/JR/P/1, para. 8.18.

immaterial considerations, as the Authorities urge in the ACS[896], would be to fall into error. They are (at least) material planning considerations which go inevitably to the degree of harm that would be caused to the objectives of including land within the Green Belt.

Very special circumstances

789. JR has identified a number of circumstances which amount to VSC to outweigh the harm in this case. They include the principal benefits arising from the noise barrier, namely:

a. it is necessary in order to mitigate noise impacts arising from the Appeal Proposals, and that there is no alternative location (or means) by which this can be effectively achieved; and

b. it is a necessary consequence of the implementation of Government policy, which itself of course delivers the public interest benefits that led the Government to decide to end the Cranford Agreement.

790. In addition, JR has drawn attention to those factors which specifically serve to reduce the extent of Green Belt harm and adverse visual impact in this case, and are thus particularly relevant to the weight attached on the negative side of the balance in the weighing exercise required to determine if VSC exist. In particular:

a. the structure replaces an existing structure which has a comparable impact on the Green Belt; and

b. the Green Belt boundary in this case is quite clearly outdated and "illogical" - the only reason it has not been realigned to follow the realigned river to date is because the preparation of development plan policy has not allowed that opportunity.

791. Ultimately, notwithstanding his disagreement with aspects of JR's assessment, AW accepted that if the LPA's other concerns with the Appeal Proposals are overcome, then his view was the VSC would exist[897].

Conclusions on Green Belt and the Noise Barrier

792. It is notable that no objections were received from local residents objecting to the Noise Barrier. In fact, one resident who objected to the Appeal Proposals specifically supported the Noise Barrier in any event.[898]

793. For the reasons summarised above, the Noise Barrier is appropriate development in the Green Belt. However, if the Inspector or Secretaries of State conclude otherwise, when account is taken of the mitigation and compensation that will be provided, the benefits of the Noise Barrier very clearly and decisively outweigh all harms, and amount to VSC.

[896] ACS para. 85
[897] AW XX, Day 8AM.
[898] Letter from Miss Newman (dated 15/10/2014).

CONDITIONS AND PLANNING OBLIGATIONS

Introduction

794. As explained above, by the end of the Inquiry, the Authorities had confirmed that their objections were capable of being overcome by way of the imposition of conditions or through requiring the entering into of an obligation. All agreed therefore that taken at the highest, their cases would result in a conditional grant of planning permission with an accompanying section 106 obligation rather than a refusal of permission.

795. HAL therefore believes it must follow that the appropriate outcome of this appeal is either a conditional grant of planning permission or a "*minded to*" decision should the Secretaries of State conclude that more is required by way of mitigation than is contained in HAL's UUs.

Conditions

796. Discussions have taken place between the parties on appropriate conditions[899], and those discussions continued after the ending of the Inquiry's oral hearings.

797. Agreement has been reached on the principle and wording of conditions dealing with the following matters:

a. Landscaping;

b. The appearance of the Noise Barrier;

c. Archaeology;

d. Construction Environment Management Plan;

e. Construction Logistics Plan; and

f. Commencement prevention;

798. HAL says no more about those conditions, other than to confirm that it accepts that they satisfy the requirements for the imposition of conditions[900].

799. There was discussion during the conditions session concerning the condition sought by the Authorities relating to sustainable drainage. For the reasons given at that session, HAL considers such a condition to be unnecessary. However, HAL understands that agreement has been reached on a condition instead requiring the submission of drainage details to be provided to the LPA.

800. A number of conditions however have not been agreed. These are considered below.

Approved Plans

801. Agreement has been reached over the plans that should be included in this condition, but HAL seeks a tailpiece permitting changes to the approved plans when

[899] INQ/43.
[900] CD/01/16, para. 206

agreed in writing by the LPA. This would allow the flexibility to accommodate minor changes to the physical works, should these prove to be necessary. Although HAL recognises that tailpieces are not normally appropriate, HAL has worded its suggested tailpiece so as to ensure that its scope does not infringe the principles established in *R (Midcounties Cooperative Ltd) v Wyre Forest DC* [2009] EWHC 964 (Admin).

Operational restrictions

802. As noted above, the Authorities are seeking various conditions restricting certain operational matters at Heathrow, namely: mixed-mode, westerly preference and night flights[901].

803. In its consideration of cumulative effects above, HAL has set out in some considerable detail how each of the measures the Authorities now seek to control by way of condition would be subject to approval through the existing airspace change regime with either the CAA or SoST being the ultimate decision maker. The detail of that is not repeated here, but it is necessary to highlight that at present, none of those measures would require an application for planning permission; they would not fall within the town and country planning regime. The effect of the conditions and obligations sought would be to bring them within that system. The result of that would be that the ultimate decision maker would become the LPA, unless the SoST exercised his powers of call in.

804. The common theme advanced by the Authorities was that each of the measures they seek to control by way of condition could have significant environmental effects on people living in the vicinity of Heathrow. Their case was that it was therefore appropriate to control them by way of condition. The detail of the cases advanced in support of such an approach to conditions and obligations however varied between the Authorities, but DC encapsulated the general approach: his view was that imposing such conditions was necessary to "*safeguard*" and "*provide an insurance policy*" for the Authorities against any of the operational measures being introduced.

805. HAL's position is clear; it opposes any such conditions or obligations. The PPG is clear that when considering whether a condition is "*relevant to planning*" it is necessary to consider "*specific controls outside planning legislation [which] may provide an alternative means of managing certain matters*".[902]

806. HAL has set out the detail of the airspace change regime that would apply before changes could be made to westerly preference or mixed mode could be introduced, whether full mixed mode, or Enhanced TEAM. In addition, changes to night flights would require changes to the statutory night flights regime. Those processes are detailed, rigorous and would involve considerable consultation and assessment, including assessment of environmental effects. It follows that the operational conditions sought by the Authorities are simply not necessary to make the Appeal Proposals acceptable in planning terms. Nor are they fairly related to the Appeal Proposals or in any way reasonable.

[901] INQ/48; and HIL/DF/P/2, p. 77.
[902] PPG, reference ID 21a-004-20140306; and HAL/JR/RP/01, para. 3.10.

807. In the ACS[903], the Authorities have relied upon a number of cases which considered the relationship between the planning and pollution prevention and control/licensing regimes[904]. Those cases do not assist the Authorities in their attempt to bring the introduction of these measures within the LPA's control through the imposition of conditions on the grant of planning permission.

a. Those cases are concerned with the proper approach for a decision-maker to take in a development control decision when both regimes apply to the activity that the developer proposes to introduce and wishes to have authorised, and, to an extent, those regimes overlap.

b. Thus they address the identification and control of the likely effects of the particular activity which the applicant for planning permission seeks to introduce[905], and not the possible effects of a quite different activity that is not in fact proposed, and which could not occur unless an application was made to the Secretary of State, and approved by him following a rigorous and inclusive process of assessment and consultation.

c. Those cases do not provide any support for the proposition that it is necessary and appropriate for a local planning authority to be given duplicate controls over whether some different activity to that which is proposed can take place in the future, when it would not otherwise be subject to the planning development control regime at all.

d. In any event, what is said in each of those cases is necessarily specific to the particular statutory regime under consideration in each instance[906]. None of the cases are concerned with the process of air space change, and its specific features and characteristics (which have been the subject of extensive and detailed evidence and submissions at this Inquiry).

808. HAL believes the consequences of imposing such conditions are clear and stark:

a. Subject to the Secretary of State's power of call in, and the right of appeal, they would make the LPA the decision maker on matters over which it has limited experience, and in relation to which Parliament has decided to give jurisdiction to the CAA and SoST under a quite separate statutory regime. It was clear during the Inquiry that none of the Authorities professed to have any expertise in matters of airspace change; quite the contrary, when it came to airspace and operational matters all deferred to MB. The airspace change process is a highly specialised process. No evidence was provided that the

[903] Para. 476
[904] The following cases are included in the Authorities' list exchanged ahead of the submission of the ACS: *Hereford Waste Watchers Ltd. v. Hereford Council* [2005] EWHC 191 (Admin); *Gateshead MBC v. SSE* (1996) 71 P&CR 350; *R v. Bolton MBC, ex parte Kirkman* [1998] JPL 787; *Lethem v. SSTLGR* [2002] EWHC 1549; [2003] 1 P&CR 2; *Hopkins Development Ltd. v. FSS* [2006] EWHC 2823; [2007] 1 P&CR 25; *Harrison v. SSCLG* [2009] EWHC 3382 (Admin); [2010] JPL 885.
[905] See e.g. *Hopkins* at paras. 4, 6, 10 and 13; and *Harrison* at paras. 9, 18 and 21-22.
[906] For example, the controls available within the licensing regime for the cafe proposed in the *Lethem* case would have involved "some input" from the Licensing Authority as to "the nature of the use", but not enough to satisfy the Planning Inspector as to the nature of the proposal before him in planning terms (para. 7).

LBH would be better placed to determine the issues arising through that process than the CAA or the SoST.

b. They would plainly be contrary to the statement in the APF "*that it is appropriate for the Government to take decisions on the right balance between noise controls and economic benefits, reconciling the local and national strategic interests*".[907] That is a recognition that the operation of Heathrow engages wider issues than just local concerns within the area of the LPA in which the airport is located; it is therefore appropriate that decisions on noise and operational controls at Heathrow are taken by the Government, rather than the LPA.

c. The Authorities' response to this was that they would expect any application relating to such conditions to be called in or any appeal to be recovered. However, even if the Secretaries of State were to call in any application to discharge a condition all that would be achieved by the condition would be duplication, both of effort and decision making. For instance, if such conditions were imposed, HAL would be still required to apply through the airspace change application process. Assuming that application was successful, HAL would then have to apply for planning permission. Assuming that application was called in, the Secretary of State would then have to retake the same decision. Although DC thought that in that case the airspace regime could be dispensed with – "*subjugated*" to the planning regime in his words[908] – there is simply no legislative provision allowing that to happen. The process would have to be gone through twice. DC thought that a price worth paying to achieve the "*insurance*" he sought, but it cannot be necessary to make the Appeal Proposals acceptable in planning terms.

d. It is also necessary to consider the issue of enforcement. As one would expect, if HAL did operate in a way that was inconsistent with the current operational restrictions, the DfT/CAA already possess appropriate powers to take enforcement action in response, including the imposition of penalties, in order to bring the Airport's operations back within its authorised limits. In those circumstances, it cannot properly be said to be necessary for the local planning authority to have the ability to bring to bear the separate system of controls and penalties available to enforce against breach of conditions under the TCPA 1990. Unless it is to be concluded that the CAA/DfT cannot be trusted to behave reasonably in the exercise of their regulatory powers, there is simply no possible justification for imposing dual controls in this way.

809. The final version of the Authorities' suggested conditions[909] included an additional 'reporting' clause for each of the three operational conditions. These clauses require HAL to provide a report to the LPA on operations by reference to the three operational controls no later than 28 days after the end of each season. These 'reporting' clauses were only added *after* the post-inquiry discussion with HAL and do not satisfy the tests for the imposition of conditions, because they are neither necessary nor reasonable.

[907] CD/01/17, para. 3.10.
[908] DC XX, Day 7PM.
[909] INQ/48

a. HAL could not undertake operations which contravene the existing operational controls without first obtaining the consent of the CAA/DfT. The Authorities do not appear to be suggesting that there is any serious possibility that HAL might try and change its operations without first going through that process. (In any event, if it sought to do so it would be the subject of enforcement action by the CAA/DfT (see above).) The process of obtaining consent from the CAA/DfT would involve consultation with all of those potentially affected, including LBH. The LPA would therefore have advance notice of any proposed change, and would be notified if it was subsequently authorised. The 'reporting' clause is not therefore needed in order to alert the LPA to a relevant change in the Airport's operations.

b. HAL already reports on night flights (night movements and quota counts), TEAM usage and alternation and east/west split through (inter alia) the Heathrow Area Consultative Committee ("HACC"). This is a Committee that meets in public, and includes amongst its membership representatives from the surrounding local authorities, including LBH, the aviation industry and local interest groups. HAL also publishes an Annual Report that contains all of the relevant information, reported on an annualised basis. That report is presented to HACC, and is also made available on HAL's website.

c. The additional 'reporting' clauses are therefore entirely unnecessary and the additional burden they impose is unreasonable.

810. The town and country planning regime is very clearly tailored to the control of "*development*" within the terms of section 55 TCPA 1990, not matters of airspace change. The evidence of DC was clear that he wanted conditions imposed as a "*safeguard*" against any decision going against the Authorities' position because he was concerned that Government tended to prioritise economic over environmental considerations[910]. That is not a proper basis for seeking to impose a condition.

811. The views of the T5 Inspector on the proper relationship between the town and country planning system and the airspace change process are noted above as is his decision not to recommend conditions dealing with matters including night flights and westerly preference. It must be remembered that this appeal is for works to enable the practical implementation of the ending of the Cranford Agreement. Conditions should relate to that, and only that. It is not an appeal to introduce mixed mode, or to end westerly preference, or to increase the number of night flights. To use the words of the T5 Inspector, those measures are not "*directly related*" to the Appeal Proposals. In those circumstances too the conditions sought must fail the requirements set out in the NPPF.

Obligations

812. It is HAL's case that the mitigation provided through the UUs complies with and in some cases exceeds that expected by the APF and therefore complies with up to date national policy.

813. In what follows HAL addresses concerns expressed by the Authorities as regards its UUs where not already addressed above. INQ/60 responds to LBH's "Note in

[910] DC XX, Day 7PM.

respect of section 106 Unilateral Undertakings" providing HAL's response to various points of detail in respect of the drafting of the UUs, which are not repeated here.

HAL's existing insulation and compensation schemes

814. DC expressed concern that HAL's existing compensation and insulation schemes were "*voluntary*" and wished to see them secured by way of condition or obligation.[911] It does not now appear that the Authorities are in fact seeking this by way of a condition[912], but the point is addressed below in relation to obligations.

815. HAL has already committed to securing mitigation in its UUs. These schemes are tailored to address impacts arising out of the Appeal Proposals, but they mirror HAL's existing schemes. Securing HAL's existing schemes by way of a condition or mitigation is not necessary to make the Appeal Proposals acceptable, nor would it be fairly related to the Appeal Proposals; HAL's existing schemes extend beyond those who would be affected by easterly alternation and mitigation for those who are affected by the Appeal Proposals is secured by way of HAL's UUs.

816. HAL's existing schemes are longstanding. Furthermore, although DC characterised HAL's existing schemes as being "*voluntary*" he then accepted that he was not aware that HAL's schemes are actually contained within Heathrow's NAP, which has been approved and adopted by the SoST who, as set out above, has express duties in respect of noise impacts and operations at Heathrow.

817. In those circumstances there can be no need for HAL to secure its existing compensation and insulation schemes by way of condition.

Outdoor amenity spaces

818. DF sought for Heathrow to provide funding for local open public amenity spaces including funding community access to quiet areas via public transport[913]. However, in XX DF admitted that he had not identified any such local open public amenity spaces or quiet areas, nor was he able to suggest how such an obligation would work in practice, let alone satisfy the requirements of the NPPF.

819. Similarly, despite his clear statement in his PoE, DF admitted that he was not "*seriously*" suggesting that a condition should be imposed linking compensation to growth in HAL's pre-tax profits[914]. In the event, those conditions were not pursued by the Authorities.

Conclusions on conditions and obligations

820. For the reasons given above, and elsewhere in these Closing Submissions, HAL invites the Inspector and Secretaries of State to conclude that conditions relating to mixed mode, westerly preference and night flights do not satisfy the requirements of the NPPF. Similarly, it is HAL's case that its UUs deliver all that is required by way of compensation and insulation.

[911] DC XX, Day 7PM.
[912] INQ/43.
[913] HIL/DF/P/2, p. 73.
[914] HIL/DF/P/2, p. 73.

SUMMARY AND CONCLUSIONS

821. HAL considers that planning permission should never have been refused and that by the conclusion of the Inquiry, the Authorities all accepted that even taking their cases at their highest, the only outcome of this appeal can be the grant of conditional planning permission, subject to a "*minded to*" decision if the Secretaries of State form the view that more is required than HAL has included in its UUs.

822. HAL respectfully invites the Inspector and Secretaries of State to reach the following conclusions:

a. HAL's assessment of the noise impacts of the Appeal Proposals is appropriate and accurate;

b. HAL's proposed noise mitigation measures satisfy the requirements of the APF, NPSE and NPPF;

c. The Appeal Proposals will not result in significant adverse or unacceptable air quality impacts;

d. Air quality mitigation measures are unnecessary;

e. HAL was correct and justified in not undertaking a cumulative assessment of the various measures put forward by the LPA as requiring such assessment;

f. The HEIA and ES contain sufficient information to allow the decision maker to reach a conclusion on the likely significant health impacts of the Appeal Proposals;

g. The ES satisfies the requirements of the EIA Regulations; and

h. That the Noise Barrier is either not inappropriate development in the Green Belt, or that VSC exist.

823. It follows that there is no material conflict with the development plan in this case, and in addition the Appeal Proposals comply with relevant national policy and constitute sustainable development.

824. Indeed, the Appeal Proposals do not just enjoy national policy support; they are positively encouraged by national policy because of the important public interest benefits that they are intended to deliver. The Government has made it clear that it supports the practical implementation of the ending of the Cranford Agreement "*as soon as practicably possible*"[915], and the AC has recommended that it happens "*as rapidly as possible*"[916]. As the Appeal Proposals comply with the requirements of the NPPF, NPSE and APF, it follows that HAL has complied with the Government's wish for it put to forward "*appropriate mitigation and compensation measures*"[917].

825. In those circumstances HAL considers that there can be no proper reason for not allowing the Appeal Proposals and permitting the introduction of scheduled alternation on easterlies, so as to end the recognised unfairness of the existing situation as soon as possible.

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[915] CD/01/25, para. 75.
[916] CD/01/26, para. 5.44.
[917] CD/01/18.

THE CASES FOR THE INTERESTED PARTIES

The material points of those appearing at the Inquiry:

826. **Mr G Gill** (INQ/6) is a local resident of Bath Road in Longford who has complained on a number of occasions to HAL in respect of the noise and vibration he has suffered. In particular, Mr Gill is concerned as to the effect of sleep disturbance on the health of his family and the effect of vibration on the fabric of his Grade II listed house - both matters which have been highlighted as a result of operational changes consequent on runway resurfacing. Mr Gill believes that the experience would be unacceptable as a long term situation yet despite seeking insulation since 2011, nothing has been provided. He also believes that the proposed noise barrier would be an eyesore. (Inspector's note: HAL's response at INQ/19 confirms that that the property is eligible for insulation under Heathrow's current scheme and suggests that preparatory insulation works are in progress).

827. **Mr K Gill** (Various letters submitted in response to both the application and the appeal) is a local resident of Bath Road in Longford. He too raises issues as to the impact of noise and vibration on his family and property which he has experienced consequent on alternation resulting from the recent runway resurfacing works. He also suggests that the proposed barrier will be inadequate to prevent vibration and noise. The correspondence submitted in response to the appeal notification raised Mr Gill's further concern that the noise barrier would cross land in his ownership. (Inspector's note: HAL's response at INQ/19 confirms that the property is eligible for insulation under Heathrow's current scheme but suggests that Mr Gill has not taken up HAL's offer. HAL further confirms that the noise barrier will not cross Mr Gill's land).

828. **Councillor Gurpal Virdi** (Letter submitted in response to the appeal notification) is a resident and independent councillor in Cranford Ward. He suggests that most residents were tolerant of Heathrow Airport until the ending of the Cranford agreement which will result in more planes using Heathrow and more noise pollution. Although he accepts that insulation will be offered, that will only be to a very limited number of houses (with many residents only being offered 50% of the costs) and he also points to the effect of noise on those children who use schools under the flight paths. He is also concerned as to air pollution and raises a number of potential health issues for residents, such as cancers and cardiopulmonary complaints, as well as suggesting that children growing up in Cranford suffer from deafness and asthma related illnesses. In particular he points to a strong smell of kerosene in the mornings as well as fine black soot on the windows of homes.

829. The Cllr is also concerned as to the effect of the proposals on air quality in general - suggesting that nitrogen dioxide levels are already high and air pollution in Hounslow exceeds recommended EU levels. He also questions both Heathrow's consultation methods and its approach to community involvement. In consequence of all these matters he believes permission should be refused.

830. **Councillor John Bowden** (INQ/30) is from the Royal Borough of Windsor and Maidenhead. He confirmed that he spoke on behalf of the Council, with authority from its leader, and that he is chair of the Council's aviation forum and a resident of Central Windsor. Cllr Bowden also noted that he spoke on behalf of Cllrs Lenton and Beer (Horton and Wraysbury and Old Windsor wards – letters submitted in response to the appeal notification).

831. Cllr Bowden noted that the Council is a local authority affected by noise from both the northern and southern runways and whilst residents under the northern runway approach would benefit from the appeal proposals, those under the southern runway approaches would see a steep increase in the number of flights - bringing increased noise and disturbance. In consequence the Council has to take a balanced view.

832. Overall, the Council's view is that the scheme would have a net benefit. That view is however dependent on the delivery of a number of safeguards including: the provision of a more generous noise mitigation package than that currently proposed; firm commitments to ensure that further operational changes such as mixed mode and other potentially disruptive trials cannot take place without additional consultation and agreement, and; a guarantee of predictable respite for all communities. Subject to those safeguards the Council supports HAL's application.

Written Representations[918]

Appeal stage

833. Around 60 responses were received in response to the appeal notification of which some two-thirds were in favour of the proposals. Unsurprisingly, respondents' support for or objection to the proposals strongly correlated with geographical areas.

834. Those against the proposals raised a number of concerns including health related issues, such as the effect of additional noise on obesity and sleep disturbance, the adverse effects on residents of Stanwell Moor, the inadequacy of the current insulation offer, the effect on outdoor spaces and outdoor recreation and the suggestion that the proposals would render many houses uninhabitable and unsaleable, particularly in Longford.

835. Those in favour of the proposals pointed to the opportunity to create a fairer noise distribution around the airport and the benefits of respite on easterly operations for those communities who currently have none - particularly certain parts of Windsor which are said to be overflown by nearly 100% of flights when the airport is operating on easterlies.

836. Broader points raised in the submissions included that the proposals may provide the opportunity for further expansion of the airport as well as suggestions that there is a need to delay any decision on this appeal until the broader consultations on airport capacity in the South East have been concluded and decisions made.

Application stage

837. The Council wrote to over 4500 properties receiving around 70 responses. These were again split between those supporting the proposals and those objecting, albeit at this stage those objecting marginally exceeded those in favour. Again, a strong geographical split was evident; for instance, all respondents in Longford objected to the proposals whilst all respondents in Windsor supported the proposals.

[918] Extract of the material points

838. Matters raised at the application stage were similar to those raised at the appeal stage and described above: the London Borough of Hillingdon Committee Report[919] provides what I consider to be a fair summary of the issues raised and I see no need to repeat them here.

[919] CD/01/03 p9 et al

INSPECTOR'S CONCLUSIONS

839. The following conclusions are based on the submissions and representations put before the Inquiry. Where appropriate, references are given to earlier paragraphs of this report [in square brackets].

INTRODUCTION

840. Notwithstanding HAL's concerns as to the Authorities' approach to both the application and the appeal, the Authorities confirmed on numerous occasions during the course of the Inquiry that they were not objecting to the Government's decision that the Cranford Agreement should be ended[920], rather that they believed the effects had not been properly assessed or mitigated. In that light, and having regard to the 7 September 2010 statement of Mrs Theresa Villiers (Minister of State, Department for Transport) in which she affirmed the previous Government's decision to end the Cranford Agreement, I consider that the issue that lies at the heart of this appeal is whether or not the proposed mitigation and compensation measures for those likely to be affected by the proposals can be regarded as 'appropriate'. [18]

841. In order to reach such a view it is necessary to consider what the effects and impacts of the proposals might be before moving on to consider the mitigation and compensation measures being proposed. Key to those questions is the information contained within the Environmental Statement (ES), a document prepared by HAL under the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (EIA Regulations).

842. The LPA considers the ES to be deficient and non compliant with the EIA Regulations and in consequence put forward reasons for refusal on that basis. HAL not only disagrees with the view of the LPA that the ES is deficient but also considers that LBH was not in any event entitled to put forward reasons for refusing the application on the basis that it viewed the ES as deficient. Instead, HAL considers that LBH should have made a request for further information under Regulation 22 of the EIA Regulations. I address this matter further below.

843. Whilst there is clearly a need to consider the environmental impacts likely to result from the proposed operational changes together with the proposed mitigation, consideration must also be given to the impact of the associated physical works. Of particular note in that regard is the proposed noise barrier which would sit alongside the village of Longford and lie partly in the Green Belt.

MAIN ISSUES

844. In light of the matters outlined above I consider the main issues to be:

(a) whether that part of the proposed development that lies in the Green Belt represents inappropriate development for the purposes of the National Planning Policy Framework and development plan policy;

(b) the effect of the proposed development on the openness of the Green Belt and the purposes of including land within it;

[920] Eg Opening Statement of the Authorities para 44

(c) the effect of the proposed development on the character and appearance of the area;

(d) the effect of the proposed development on the living conditions of local residents (including users of local institutions such as schools/libraries) having regard to noise;

(e) the effect of the proposed development on the living conditions of local residents having regard to air quality; and

(f) if that part of the proposed development that lies in the Green Belt is deemed to be inappropriate, whether the harm by reason of inappropriateness, and any other harm, is clearly outweighed by other considerations, so as to amount to the very special circumstances necessary to justify the development.

845. However, before dealing with the main issues I shall address the concerns of the Authorities in relation to the adequacy of the Environmental Statement including those relating to the matter of cumulative assessment. I shall however begin with an overview of the policy and guidance framework. Sections on conditions and obligations (the means by which any proposed mitigation measures would be secured) will follow the main issues, as will my overall recommendations.

PLANNING POLICY AND GUIDANCE

846. This section gives a brief overview of the policy and guidance framework; the policies and guidance of particular relevance to each of the main issues are explored in more detail in the appropriate sections.

The Development Plan

847. Section 38(6) of the Planning and Compulsory Purchase Act 2004 makes it clear that determinations should be made in accordance with the development plan, unless material considerations indicate otherwise. In this case the development plan includes the Hillingdon Local Plan Part 1: Strategic Policies (2012) (LP), the saved policies of the Hillingdon Unitary Development Plan (2007)(UDP)(adopted as Part 2 of the Local Plan in 2012) and the London Plan (2015)(LoP).

848. The LP Policies I consider to be of most direct relevance include; Policy EM2, which notes that development in the Green Belt will be assessed against national and London Plan policies; Policy EM8 which, amongst other matters, states that development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and new sensitive receptors - and which also seeks to ensure that noise generating development is only permitted if noise impacts can be adequately controlled and mitigated; and Policy T4, which is specifically concerned with Heathrow Airport and which seeks to support the sustainable operation of Heathrow Airport within its present boundaries whilst improving environmental conditions such as noise and air quality.

849. The UDP Policies of most direct relevance include; Policy A2, concerning applications for proposals within the boundary of Heathrow Airport which are likely to have a significant adverse environmental impact and which seeks sufficient measures to mitigate for or redress the effects of the airport on the local environment; Policies OE1 and OE3 which in various ways seek to control the noise

impacts of development; Policies OL1 and OL4 which seek to control land uses and the replacement or extension of buildings within the Green Belt; and, Policies BE13 and BE19 which deal with matters pertaining to character and appearance.

850. The most relevant LoP policies include: Policy 6.6 which, in dealing with Aviation, recognises that adequate airport capacity serving a wide range of destinations is critical to the competitive position of London in the global economy but which also notes that development proposals affecting aircraft operations or patterns of air traffic should give a high priority to sustainability and should take full account of environmental impacts (particularly noise and air quality); Policy 7.14 which, in dealing with Air Quality, seeks amongst other matters for development proposals to be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality (such as areas designated as Air Quality Management Areas (AQMAs)); Policy 7.15, which amongst other matters seeks for development proposals to manage noise by avoiding significant adverse noise impacts on health and quality of life as a result of new development and by mitigating and minimising the existing and potential adverse impacts of noise resulting from new development without placing unreasonable restrictions on new development or adding unduly to the costs and administrative burdens on existing businesses; and, Policy 7.16 which in dealing with Green Belt matters seeks the strongest protection for London's Green Belt in accordance with national guidance.

National policies and guidance and other plans

The NPPF

851. As a statement of national planning policy the NPPF (March 2012) is an important material consideration in planning decisions and attracts substantial weight. Of particular relevance in this case are Section 9 (Protecting Green Belt land), especially Paragraphs 79 and 87-90, Section 11 (Conserving and enhancing the natural environment) in respect of air quality and noise matters, especially Paragraphs 109, 123 and 124, and Paragraphs 196, 197 and 203-206 in respect of determining applications and conditions and obligations.

The PPG

852. The PPG provides up to date Government guidance, in particular, how planning can take account of the impact of new development on air quality (ID:32) and noise (ID:30) as well as providing guidance in respect of planning obligations (ID:23b) and the use of planning conditions (ID:21a).

The NPSE

853. The NPSE (March 2010) notes that it "…*seeks to clarify the underlying principles and aims in existing policy documents, legislation and guidance that relate to noise*." It sets out the long term vision of Government noise policy as being to "*Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development*". It is referenced in the NPPF.

The APF

854. The APF (March 2013) states that it "…will fully replace the 2003 Air Transport White Paper as Government's policy on aviation, alongside any decisions

Government makes following the recommendations of the independent Airports Commission." It notes that the "….aviation sector is a major contributor to the economy and we support its growth within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise." Of particular relevance to this appeal is Chapter 3 dealing with noise, air quality and other local environmental impacts. This chapter, whilst recognising the benefits of aviation, notes that its environmental impacts are borne by those living around airports, some of whom may not use the airport or directly benefit from its operations.

Other plans

855. The London Borough of Hounslow Unitary Development Plan (2003) (HoUDP) is a further material consideration, as is the emerging Hounslow Local Plan. HoUDP Policy ENV-P.1.5 notes that "the Council will not allow any development proposal which could result in unacceptable levels of noise nuisance to nearby existing or future occupiers".

856. The emerging Hounslow Local Plan has been examined and Hounslow has consulted on the main modifications. Policies EQ5 dealing with noise and Policy EC3 dealing with Heathrow Airport are relevant policies and, on the basis of the information before me, can be given at least moderate weight as material considerations.

THE ENVIRONMENTAL STATEMENT

857. The LPA considers the ES inadequate and through its RfR raises essentially three concerns: that it does not adequately describe the significant effects arising from noise impacts; that it fails to set out the measures to prevent, reduce and where possible offset any significant adverse effects on the environment, and; that it fails to provide a cumulative assessment of the proposed development with other "reasonably foreseeable" operational airport changes.

858. Before addressing the LPA's specific concerns it would be helpful to look at the main elements of the regulatory and guidance framework, including The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (EIA Regulations) and the Planning Practice Guidance, as well as the judgement of Sullivan J (as he then was) in R (Blewett) v. Derbyshire CC[921] - referred to by both the Authorities and HAL in closing. I shall also deal with the procedural matters raised by HAL before addressing the LPA's concerns.

The Regulatory and Guidance Framework

The EIA Regulations

859. There is no debate between the main parties that, having regard to the EIA Regulations, the proposals constitute 'EIA development'[922]. There is no reason for me to take a different view. EIA Regulation 3 states that:

> "*The relevant planning authority or the Secretary of State or an inspector shall not grant planning permission or subsequent consent pursuant to an*

[921] [2003] EWHC 2775 (Admin)
[922] Eg see CD/01/02 Section 1.2 'Purpose of the Environmental Statement'

application to which this regulation applies unless they have first taken the environmental information into consideration, and they shall state in their decision that they have done so."

860. Regulation 2, dealing with interpretation, notes in particular that:

""environmental information" means the environmental statement, including any further information and any other information, any representations made by any body required by these Regulations to be invited to make representations, and any representations duly made by any other person about the environmental effects of the development".

861. Regulation 2 also notes that:

""environmental statement" means a statement—

(a) that includes such of the information referred to in Part 1 of Schedule 4 as is reasonably required to assess the environmental effects of the development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile, but

(b) that includes at least the information referred to in Part 2 of Schedule 4"

862. With regard to the specific concerns expressed by the Authorities I consider the most pertinent parts of Part 1 of Schedule 4 to be Paragraphs 3, 4 and 5.

Paragraph 3 states:

"A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors."

Paragraph 4 states:

"A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from—

(a) the existence of the development;

(b) the use of natural resources;

(c) the emission of pollutants, the creation of nuisances and the elimination of waste, and the description by the applicant or appellant of the forecasting methods used to assess the effects on the environment."

and Paragraph 5 states:

"A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment."

863. Regulation 22(1) is also relevant to the matters at issue. It states that:

> "*A relevant planning authority, Secretary of State or inspector dealing with an application or appeal in relation to which the applicant or appellant has submitted an environmental statement, if of the opinion that the statement should contain additional information in order to be an environmental statement, shall notify the applicant or appellant in writing accordingly, and the applicant or appellant shall provide that additional information; and such information provided by the applicant or appellant is referred to in these Regulations as "further information*".

864. In the event that such 'further information' is not provided then Regulation 22(7) notes that:

> "*Where information is requested under paragraph (1) or any other information is provided, the relevant planning authority, the Secretary of State or the inspector, as the case may be, shall suspend determination of the application or appeal, and shall not determine it before the expiry of 14 days after the date on which the further information or any other information was sent to all persons to whom the statement to which it relates was sent or the expiry of 21 days after the date that notice of it was published in a local newspaper, whichever is the later*."

The PPG

865. PPG Paragraph: 033 Reference ID: 4-033-20140306 notes amongst other matters that:

> "*There is no statutory provision as to the form of an Environmental Statement. However, it must contain the information specified in Part II of Schedule 4 [of the EIR], and such of the relevant information in Part I of the Schedule 4 [of the EIR] as is reasonably required to assess the effects of the project and which the applicant can reasonably be required to compile. It may consist of one or more documents, but it must constitute a "single and accessible compilation of the relevant environmental information and the summary in non-technical language" (Berkeley v SSETR [2000] 3 All ER 897, 908)*."

866. Paragraph: 033 also notes that:

> "*Whilst every Environmental Statement should provide a full factual description of the development, the emphasis of Schedule 4 is on the "main" or "significant" environmental effects to which a development is likely to give rise. The Environmental Statement should be proportionate and not be any longer than is necessary to assess properly those effects. Where, for example, only one environmental factor is likely to be significantly affected, the assessment should focus on that issue only. Impacts which have little or no significance for the particular development in question will need only very brief treatment to indicate that their possible relevance has been considered."*

R (Blewett) v. Derbyshire CC

867. The Authorities acknowledge that this Judgement states that "*in an imperfect world it is an unrealistic counsel of perfection to expect that an applicant's environmental statement will always contain the 'full information' about the environmental impact of a project*" - but nonetheless consider the ES to be materially deficient.

868. For its part, HAL has referred to the Judgement in seeking to highlight the distinction between cases of the type described by Sullivan J in Paragraph 41 as falling within the ambit of: *"... cases where the document purporting to be an environmental statement is so deficient that it could not reasonably be described as an environmental statement as defined by the Regulations (Tew was an example of such a case), but they are likely to be few and far between"* and cases where the alleged shortcomings of the environmental statement are not said to be so significant as to represent a bar to lawful decision-making – as dealt with at paragraph 40 of the Judgment.

Procedural matters

869. HAL alleges that the LPA's third and fourth RfR are not in fact properly capable of being RfRs at all and that instead, those complaints should have resulted in Regulation 22 requests for further information. The LPA maintains that it did in fact make a Regulation 22 request but that, as HAL did not carry out the requested work, there was no point in pursuing those matters and it then took the only sensible course open to it in refusing the application. The LPA disputes it ever breached Regulation 22.[923]

870. Notwithstanding the appreciable amount of effort devoted to this point in the closing submissions, it seems to me that the matter is of largely academic interest in this appeal as it does not go to the substantive issues before the Secretaries of State. It can therefore be dealt with quite briefly.

871. Firstly, I accept HAL's view that the drafting of the EIA Regulations is such that, if the LPA is of the view that an ES is deficient, the correct course of action is for the LPA to seek further information through a Regulation 22 request and suspend determination of the application until satisfied that the appropriate information has been provided. HAL appears to have accepted[924] that the LPA's letter of 16 August 2013[925] was such a request - and I agree. However, HAL considered the requested information was neither necessary nor practicable to provide. In those circumstances the LPA should have simply suspended its determination - rather than refuse the application on the basis of a deficient ES.

872. That said, the PPG notes[926] that "*The 16 weeks time limit for determination of the Environmental Impact Assessment application continues to run while any correspondence about the adequacy of the information in an Environmental Statement is taking plac*e". Consequently, even if the LPA had suspended its determination it is likely that there would still have been an appeal.

873. However, whether or not the LPA's approach ran contrary to the EIA Regulations does not alter the fact that in the process of dealing with this appeal there is a need for both myself and the Secretaries of State to come to a view on the adequacy of the ES – in other words, whether or not it can be deemed an ES in the context of the EIA Regulations - and in consequence whether or not there is a need for myself

[923] INQ65 Paras 25-28
[924] HAL Statement of Case (CD/01/06) Para 4.29
[925] HAL/JR/A/5
[926] Paragraph: 047 Reference ID: 4-047-20140306

or the Secretaries of State to seek further information through a Regulation 22 request. I therefore see no point in pursuing the procedural matters further.

Does the ES adequately describe the likely significant effects of the development on the environment?

874. It is worth beginning by considering the terminologies employed in the submissions of the parties. For its part the LPA refers to the significant 'effects' associated with 'impacts' – in that "Annoyance is deemed to be an impact; increased risk of health problems is the effect."[927] On that basis the LPA believes that neither the ES nor the HEIA adequately describes the likely significant effects associated with noise impacts. In contrast to the LPA's use of 'effects' and 'impacts', Section 4.2 of the ES notes that whilst the terms 'impacts' and 'effects' are often used interchangeably in environmental statements it seeks to avoid the use of the word 'impact' other than when specifically referring to 'Environmental Impact Assessment' as a legal process - the word 'effect' being otherwise used to describe the environmental consequences of the Project. That said, ES Paragraph 1.3.4 sets out that the HEIA has been produced primarily in recognition of the potential for noise and air quality 'effects' resulting from the Project to cause health 'impacts'.

875. Despite this differing and somewhat confusing use of terminology it nonetheless appears as though both HAL and the Authorities recognise that the development is likely to change the noise environment around the airport; that those changes have the potential to annoy or otherwise disturb or disrupt the functioning of individuals and communities; and, that any such annoyance or disturbance may translate into health issues affecting matters such as the physical and mental wellbeing of individuals (eg cardiovascular problems and depression). The fundamental question to be addressed is whether or not the ES adequately describes that chain of events and the consequences arising at each stage. Having regard to the Authorities' specific concerns, the most pertinent section of the ES to consider is Chapter 6 (Air and Ground Noise).

876. In the early part of Chapter 6, Paragraph 6.2.1 notes that noise is defined as 'unwanted sound' and identifies a number of possible adverse effects on the quality of life enjoyed by individuals and communities arising from noise - including annoyance, sleep disturbance and interference with task performance. Paragraph 6.2.2 then notes that health effects, including the indirect effects of noise such as stress caused by annoyance and/or the health effects of sleep disturbance with consequent effects on morbidity and mortality, are considered within the HEIA (submitted with the planning application alongside the ES). There is clearly therefore a recognition of the chain of events described above.

877. In terms of changes to the noise environment, Chapter 6 describes the assessment methodologies and addresses the relationship between noise exposure change and significance before going on to present assessments of the changes in air noise, ground noise and air and ground noise combined. It also presents assessments of construction noise effects and 'start-of-roll' vibration effects - of particular relevance to residents in Longford.

[927] PoE Thynne Paragraph 3.2.8

878. Paragraph 6.7.18 states that "*In compliance with Government Policy (APF), a primary assessment of aircraft noise community annoyance effects has been undertaken using the L_{Aeq16h} index*" and Paragraph 6.7.25 states that "*To fulfil commitments made during consultation, a secondary assessment of community annoyance effects has been undertaken using the L_{den} index*". The latter assessment is, however, presented in Appendix G to the ES *"….to reflect the Government's decision to reaffirm the use of the L_{Aeq16h} index as the principle of community annoyance."*[928] ES Paragraphs 6.7.30 - 6.7.34 note that alternative measures of community annoyance have been used to present and assess the changes (including frequency and changes in easterly movements against Noise Preferential Routes and arrivals tracks as well as respite/relief contours and percentages during easterly operations) and Paragraph 6.7.36 notes that sensitivity tests are also presented in Appendix G.

879. Against this background it seems to me that the ES does describe the likely changes to the noise environment around the airport - and by reference to a range of metrics. It also recognises that those changes have the potential to cause either adverse or beneficial effects (eg Table 6.12) to certain sections of the population as well as the likelihood that there will be changes in the numbers of people feeling 'Annoyed' or 'Highly Annoyed' (eg Table 6.16).

880. As far as health is concerned, the HEIA sets out that one of its objectives is to identify the potential positive and negative health effects associated with the proposed changes. HEIA Paragraph 5.5.10 notes that, for noise, the methodology includes a review of published literature to identify not only the issue of 'strength of evidence' but also the general consensus on 'exposure-response' relationships between various health outcomes and noise. Paragraph 5.5.11 notes that a range of metrics have been used to reflect (and be consistent with) the evidence from studies that connect noise to health effects, the source information being the same as that used in the ES. The HEIA then goes on to address how it has addressed particular issues such as annoyance, sleep disturbance, cognitive performance in schoolchildren and cardiovascular and coronary health.

881. Taking annoyance as an example, HEIA Paragraphs 5.5.13 and 5.5.14 set out the methodology and metrics used to assess the change in the number of people 'Highly Annoyed' with the metrics to be used being identified as 57dB LAeq 16 hr for air noise contours. The results of the evaluation are presented in Table 7.2 within the section headed 'Evaluation of effects' with Paragraph 7.3.3 noting that with full runway alternation in place there is an overall decrease of 50 in the number of people 'Highly Annoyed' – which is adjudged not to be a material change. Other issues such as sleep disturbance and the cognitive effects on schoolchildren are dealt with in a similar manner - albeit employing different metrics and criteria.

882. Notwithstanding the foregoing, the Authorities, in addition to their wider concerns, raise a number of specific objections to the ES. In particular the Authorities "*…object to reliance on the 16 hour LAeq metric as the sole basis for assessment and as the sole basis upon which mitigation is offered*"; consider that it is insufficient to describe the likely significant effects arising from development by simply referring back to the APF in order to describe the effects on people; and,

[928] ES Paragraph 6.7.29

consider it wrong to present the health effects of the development in a separate document (the HEIA) - which they consider is itself unreliable.

883. I consider that the Government's Policy on Aviation (the APF) is highly relevant to consideration of those specific concerns. The foreword to the APF notes that "*History shows that we need an agreed policy everyone can stick to before we try to act. Our aim is to achieve this through the Aviation Policy Framework and the work of the Independent Airports Commission*" before going on to confirm that the APF *"……..sets out the Government's objectives and principles to guide plans and decisions at the local and regional level…..*".

884. The Authorities pointed out several times during the course of the Inquiry that notwithstanding the APF, any determination should be made in accordance with the development plan unless material considerations indicate otherwise. That of course is true. However, the development plan in this case contains little in the way of specific metrics and given that the APF is the Government's policy on aviation it must be a matter of considerable weight in consideration of the appeal. It is, in my view, an appropriate reference point to adopt when looking at the Authorities' objections concerning the ES and specifically the use of the 16 hour LAeq metric.

885. Chapter 3 of the APF deals with noise and other local impacts and Paragraph 3.12 sets out that the Government's overall policy on aviation noise is to limit, and where possible, reduce the number of people in the UK significantly affected by aircraft noise. Paragraph 3.13 confirms that this aim is consistent with the Government's Noise Policy as set out in the NPSE - which aims to avoid significant adverse impacts on health and quality of life.

886. APF Paragraph 3.15 notes that to provide historic continuity, the Government will continue to ensure that noise exposure maps are produced for the noise-designated airports (of which Heathrow is one) on an annual basis providing results down to a level of 57dB LAeq 16 hour. Paragraph 3.17 states that "*We will continue to treat the 57dB LAeq 16 hour contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance*" and, in dealing with noise insulation and compensation, Paragraphs 3.36, 3.37 and 3.39 all refer to levels of noise on an LAeq16hr basis.

887. In consequence of the APF's focus on the LAeq 16 hr metric it does not seem unreasonable that HAL should undertake its primary assessment in the ES on the same basis.

888. APF Paragraph 3.19 nonetheless notes that the Government recognises that people do not experience noise in an averaged manner and recommends that "…*average noise contours should not be the only measure used when airports seek to explain how locations under flight paths are affected by aircraft noise*." That is acknowledged in the ES at Paragraph 6.7.30 which states that "…*alternative measures have been used to present and assess the changes resulting from the Project*." As noted above, those alternative measures include some which are not based on average noise contours (eg respite/relief percentages) - albeit that the ES also includes further averaging measures such as contours based on the Lden index, additional information in the form of LAeq 8h single mode air noise contours and sensitivity tests around both the Lden and LAeq 16h indicators.

889. Despite the Authorities' objections it therefore seems clear to me that the ES has not relied solely on the LAeq 16h metric to describe the change in the noise environment around the airport. However, I accept that it is unclear as to how, or even if, those other metrics have informed consideration of the effects on the population and any consequent need for mitigation. Table 6.31 of the ES shows that the eligibility criteria for insulation and compensation are all based on LAeq 16hr and although metrics such as Lden have been produced, none of the other metrics (including those based on Lden and LAeq 8h) appear to have informed any of the main mitigation measures being envisaged.

890. That said, there are some mitigations proposed in the ES which it seems do not simply rely on the LAeq 16h metric for air noise. ES Paragraph 6.14.4 notes that the Longford Noise Wall is intended to mitigate ground noise and start-of-roll noise effects and with regard to vibration effects on lightweight structures in Longford, ES Paragraphs 6.14.6 and 6.14.7 acknowledge that, if mitigation is possible, HAL will finance works up to £10,000.

891. As far as relying on the HEIA to describe health effects is concerned I see nothing wrong in the concept of having a separate document for that purpose. Indeed, the PPG[929] recognises that an ES "….may consist of one or more documents.." However, it is unclear as to whether the HEIA was ever intended to be part of the ES and it could be argued that the HEIA is simply a standalone document. In any event, the same paragraph of the PPG goes on to state that an ES must constitute a single and accessible compilation of the relevant environmental information. In that regard some of the Authorities' objections do have merit - in that not only does the interrelationship between the ES and the HEIA lack clarity but there is also a distinct lack of clarity in the HEIA itself as to how its conclusions have been arrived at.

892. In that latter respect it is of particular relevance to look at the issue of 'annoyance'. Although HEIA Paragraph 5.5.14 sets out that the methodology will follow that set out in the 2002 EU Position Paper on Annoyance[930], that paper is referenced only by a web link - an approach that in light of the PPG's aim of accessibility cannot be without criticism.

893. In addition, although the relevant equation from the EU paper is presented in full in Paragraph 5.5.14, that equation uses Lden figures to arrive at the percentage of people 'Highly Annoyed'. The descriptor of how the conversion had been carried out between LAeq and Lden ("*The LAeq values will be adjusted from Lden by the addition of 2dB*") caused considerable debate at the Inquiry. Although HAL states that there is no calculation or transition error in the HEIA or ES and that the confusion arises simply from a poor choice of words (in that the sentence should have read "The LAeq values will be adjusted from Lden by the addition of 2dB <u>to the LAeq value</u>"), it seems to me that HAL's suggested amendment does not completely answer the Authorities' point. It is for instance agreed that, at Heathrow, the LAeq values can be adjusted <u>to</u> Lden by adding 2dB to the LAeq values (ie 53dB LAeq 16hr is approximately equivalent to 55Lden). HAL's suggested clarification does not in any event affect the statement at the end of the paragraph that "Metrics to be used: 57dB LAeq 16hr for air noise contours" - when clearly there are people 'Highly

[929] Paragraph: 033 Reference ID: 4-033-20140306
[930] More accurately: European Commission 2002: Position paper on dose response relationships between transportation noise and annoyance

Annoyed' at other noise levels. Indeed, even the suggestion in Paragraph 5.5.13 that "*Changes in noise will be measured by LAeq contours above 57dB LAeq……*" (as the metric considered by the Government in the decision to end the Cranford Agreement) fails to acknowledge that there will be an appreciable percentage of the population 'Highly Annoyed' at noise levels well below 57dB LAeq[931].

894. Perhaps more fundamentally there is no obvious means of linking the methodology described in Paragraph 5.5.14 of the HEIA to the results in Table 7.2 - which the EIA then uses in arriving at the conclusion that there will be no material change to the number of people 'Highly Annoyed'. Without that information there is little to demonstrate that a reduction of some 10,500 people in the 57dB LAeq 16hr contour combined with an increased population of some 8500 in the contours above 60 LAeq 16hr (where the percentages of people 'Highly Annoyed' increase markedly[932]) does actually result in an overall decrease of those 'Highly Annoyed'.

895. There is a similar lack of clarity when trying to link the results in Table 6.16 of the ES to the methodology set out in ES Paragraph 6.7.34. Although Table 6.16 of the ES and Table 7.2 of the HEIA both identify that there will be 50 fewer people highly annoyed, the ES notes that it has taken the dose-response relationship from the European Environment Agency Technical Report 11/2010 and has adopted the dose-response relationship based on the post-1996 research - whereas the HEIA states that it follows the methodology set out in the "2002 EU Position Paper on Annoyance". That makes it unclear as to whether the results in the two tables have actually been derived using the same methodology, were arrived at independently (and thus might act as some form of cross-check) or have simply been transferred across from one document to the other.

896. The Authorities consider the HEIA unreliable in that it has worked only on the basis of the LAeq 16hr metric and has not assessed the health effects on the basis of 55dB Lden - thus failing to deal with the consequences of large numbers of people becoming highly annoyed. However, whilst it is true that there will be people highly annoyed down to 55dB Lden (indeed below that figure), and Table G6 of Appendix G to the ES notes that there will be an extra 2400 people within the 55dB Lden contour, the same table notes that there will be a decrease of some 4650 people within the 60dB Lden contour. To my mind the issue is therefore rather simpler than that described by the Authorities and can be characterised as: whether or not the HEIA has presented information in such a way that it allows a decision maker to conclude that it has accurately identified the change in the number of people 'Highly Annoyed'. Based on all the information put before the Inquiry and my analysis above I do not believe that question can be answered in the affirmative. Consequently I can give that aspect of the HEIA little weight.

897. Having reached that conclusion, the question then is whether or not that means that the ES should be deemed inadequate. HAL points out that the LPA's validation checklist makes no reference to requiring an HEIA or HIA and no Regulation 22 request was made by the LPA to that effect. HAL also suggests that the EIA Regulations do not list health as one of the matters that have to be considered and that the recent adoption of a revised EIA Directive including health as one of the

[931] See PoE of Mr Fiumicelli (HIL/DF/P/2) Table 5.2
[932] ibid

factors to be considered (from 2017) strongly suggests that there is currently no such requirement.

898. Whilst that suggests that there is currently no explicit requirement to deal specifically with health effects, of perhaps greater importance is that the approach taken in the ES to both assessment and mitigation has been informed by Government policy - that itself takes account of the aims of the NPSE and which are clearly linked to health and quality of life. Indeed, HAL suggests that an assessment is adequate if it allows the decision maker to understand the number of people exposed to a noise level which equates to SOAEL or higher and to judge whether the mitigation and compensation will be effective to avoid the significant adverse effects on health and quality of life associated with noise exposure at such levels.

899. Bearing in mind that the regulatory framework is clear that an ES should contain information *reasonably* required to assess the effects of the project, it seems to me that against the background above the ES should not be regarded as 'inadequate' (in the sense that it cannot reasonably be regarded as an ES) in the way it has used metrics in its assessment or in the way it has described the likely significant effects of the development on the environment.

Does the ES adequately describe the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment?

900. Section 6.14 presents an overview of the mitigation envisaged. Table 6.31 presents a summary of the buildings eligible for mitigation under the proposed scheme, Paragraph 6.14.4 identifies that a noise wall will be constructed, Paragraph 6.14.5 refers to the increase in predictable periods of respite for certain sections of the community and Paragraph 6.14.7 lays out that HAL will assess any pre-existing lightweight structures within 475m of start-of-roll to assess what action may be taken to mitigate the effects – and that, if mitigation is possible, HAL will finance works up to a maximum value of £10,000.

901. I note that the proposed mitigation regarding schools has changed significantly since the ES was submitted and I acknowledge the Authorities' concerns in regard to the specificity of certain mitigations (in that it is not possible, for instance, to say from the ES exactly what mitigation will be provided to households qualifying for insulation - which instead will be subject to a noise assessment to determine a statement of need). However, whilst the lack of specificity and the evolving mitigation for schools may point to some deficiencies in the ES, such matters do not necessarily render the ES inadequate. Paragraph 5 of Part 1 of Schedule 4 to the EIA Regulations requires a description of the measures *envisaged* to prevent, reduce and where possible offset any significant adverse effects on the environment. It is of course up to the decision maker to determine whether or not the proposed mitigation is acceptable, a matter which is addressed later in the main issues.

902. In light of my considerations of Section 6.14 above, I consider that the ES does meet the requirements of the EIA Regulations in that it has provided a description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.

Does the ES adequately describe the cumulative likely significant effects of the development?

903. Paragraph 4 of Part 1 of Schedule 4 to the EIA Regulations says that the description of the likely significant effects of the development on the environment should cover, amongst other matters, the cumulative effects of the development. Although there appears to be a measure of agreement between the parties as to the general intent of the Regulations, there is no agreement as to the need for a cumulative assessment in this case.

904. The Authorities' case is that there are numerous 'reasonably foreseeable' changes to the operations at Heathrow which ought to have been included in a cumulative assessment - including the measures recommended by the Airports Commission in both the short term (eg Operational Freedoms measures, Optimisation Strategy recommendations, more night flights ('early morning smoothing') and ending westerly preference) and the medium term (the introduction of full mixed mode).

905. In the Authorities' view the ES is materially defective without a proper cumulative assessment and any decision to grant planning permission relying on it would be unlawful. HAL's case is that there is no need for any of these other operational measures to be included in a cumulative assessment as they are either too uncertain to occur, are insufficiently defined in terms of their impacts or have no realistic potential to give rise to significant environmental effects when considered with the proposed development – or combinations thereof.

906. In support of their case the Authorities have pointed me towards the Planning Inspectorate's (PINS) Advice Note 9: Rochdale Envelope which notes that the "*…potential cumulative impacts with other major developments will also need to be carefully identified such that the likely significant impacts can be shown to have been identified and assessed against the baseline position (which would include built and operational development)"*. The note suggests that other major development should be identified through consultation with the local planning authorities and other relevant authorities on the basis of those that are, for example: under construction; permitted applications not yet implemented, and; submitted applications not yet determined. The list also includes development identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is 'reasonably likely to come forward'. The LPA took the general view that the proposed operational changes are captured by the 'submitted applications not yet determined' or are included in other plans or programmes, are reasonably likely to come forward, and thus should be included in a cumulative assessment.

907. I am however conscious that the Advice Note refers specifically to nationally significant infrastructure; draws on a judgement involving two outline applications; and, states in its conclusions that "The 'Rochdale Envelope' is an acknowledged way of dealing with an application comprising EIA development where details of a project have not been resolved at the time when the application is submitted. It therefore seems to me that whilst the Advice Note may offer some guiding principles it is of limited direct applicability in this case.

908. For its part HAL has put forward a note (the 'Cumulative Assessment Legal Note'[933]) which sets out to summarise the provisions of the EIA Directive and the EIA Regulations as well as European and domestic guidance and case law on cumulative assessment. The note concludes by suggesting that factors that may be relevant when forming a judgement as to whether other proposals or developments should be subject to cumulative assessment with a development for which consent is being sought include: the level of certainty (or otherwise) as to whether the other proposal will occur; the level of certainty as to the nature, characteristics and likely environmental effects of the other proposal such that a robust, meaningful and reliable cumulative assessment might be undertaken; and, whether the other proposal has any realistic potential to give rise to likely significant cumulative effects when considered with the proposed development.

909. PPG on 'Screening Schedule 2 projects' notes at Paragraph 24[934] that "*Each application (or request for a screening opinion) should be considered on its own merits. There are occasions where other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a proposed development. The local planning authorities should always have regard to the possible cumulative effects arising from any existing or approved development. There could also be circumstances where two or more applications for development should be considered together. For example, where the applications in question are not directly in competition with one another, so that both or all of them might be approved, and where the overall combined environmental impact of the proposals might be greater or have different effects than the sum of their separate parts*."

910. Against this background it is clear that there is the need to apply judgement when selecting whether to include other developments in a cumulative assessment. Although the Authorities consider that PINS Advice Note 9 is an appropriate framework against which to make those judgements, and I shall bear that in mind, it seems to me that for the reasons above, the framework outlined in the Cumulative Assessment Legal Note is perhaps better aligned to this case. In any event there are considerable commonalities between the two approaches and, as the Authorities raise no substantive concerns to the principles outlined in the Cumulative Assessment Legal Note I intend to use them as the framework for considering whether a cumulative assessment is necessary here.

911. As a preliminary matter, HAL argues that, in determining which other developments (if any) should be subject to a cumulative assessment, the airspace change process is a major factor. HAL considers it relevant because it would have a significant bearing on the level of certainty that a particular development will come forward - as well as the level of certainty associated with its precise nature, characteristics and effects. The Authorities' view is that the existence of a separate regulatory process does not obviate the need for a cumulative assessment and point out that even if there was a need for a subsequent planning application and a further EIA process that would not reduce the importance of carrying out a cumulative assessment at the first opportunity.

912. In coming to a view on the relevance of the air space change process in this matter it is of course necessary to understand whether or not the other operational

[933] HAL/JR/A/5A
[934] Reference ID: 4-024-20140306

changes would actually be subject to the airspace change process. In that regard, HAL notes [698] that in light of Mr Thynne's acceptance in XX, both HAL and the LPA accept that the airspace change process applies to *all* (HAL's emphasis in its closing statement) the measures the LPA seeks to have included in the cumulative assessment. HAL's evidence is that although CAP 725 refers only to "airspace change" it governs the procedure for all applications caught by Direction 9 of the Civil Aviation Authority (Air Navigation) Directions[935] - including changes to the use of airspace and changes to air traffic control procedures.

913. The Authorities however point out in their closing statement [149] that CAP 725 puts a relatively narrow construction on what might be considered an 'airspace change' when compared to that put to and accepted by Mr Thynne in XX ("any change to or use of physical airspace"). The Authorities also note that a Judicial Review has been brought by Martin Barraud concerning what is meant by 'airspace change' in the Directions - with the CAA interpreting 'airspace change' narrowly (the SoST and Gatwick Airport Limited are interested parties to the Judicial Review).

914. That said, in the absence of any further details concerning the Judicial Review, and in light of the matters that were put before the Inquiry (and are outlined above) it seems to me that I should approach my considerations on the basis that the operational changes the LPA seeks to have included in the cumulative assessment would be subject to the airspace change process [705]. In any event, whilst HAL states that it is confident that its evidence on the nature and operation of this 'well-established' process is correct, it also acknowledges that the SoST, as one of the decision makers to this appeal as well as the ultimate decision maker in the airspace change process, will be particularly well placed to reach a decision on this matter [699]. Dependent on the progress of the Judicial Review it may be something on which the Secretaries of State would wish to revert to the parties.

915. It was not disputed that an application for airspace change would fall outside the EIA Regulations and, whilst the LPA accepted that the airspace change process would itself encompass an environmental assessment, the LPA also considered that such an assessment would be less rigorous than that required under the EIA Regulations. HAL's view is that an Environmental Assessment under the airspace change process, drawing on Appendix B to CAP 725, would closely reflect an environmental assessment in the planning context and that no measure would be introduced without consultation and environmental appraisal to the satisfaction of the SoST.

916. On the assumption that the airspace change process would encompass the operational changes that the LPA considers should form part of a cumulative assessment, the Guidance to the Civil Aviation Authority on Environmental Objectives Relating to the Exercise of its Air Navigation Functions[936] notes that there are two specific circumstances when approval must be sought from the SoST for an airspace change. These are for an airspace change involving the need for a new Noise Preferential Route (NPR) at a designated airport, or when a replication or redesign is likely to have a net significant detrimental impact on the environment[937]. HAL confirmed that it is for the CAA to reach a judgement as to whether these

[935] CD/01/23C
[936] CD/01/23A
[937] HAL/JR/RP/A/01 Paragraph 3.1

criteria are met such that the approval of the SoST is required. However, Paragraph 17 of Appendix B to CAP 725 notes that the planning authority is the Director, Airspace Policy or, *in exceptional circumstances* (my emphasis) the SoST.

917. Nevertheless, for the reasons set out by HAL, drawing on Appendix B to CAP 725, [707] it seems to me that there are considerable parallels to be drawn between the two environmental assessment processes, including in the matter of the effects of proposals in combination [706]. In consequence, and despite the fact that the SoST is likely to be the decision maker only in exceptional circumstances, I do not share the LPA's concerns over the environmental assessment element of the airspace change process.

918. It is against this background that I now turn to examine the specific operational measures that the LPA considers should form part of a cumulative assessment. For ease of reference I shall do so in the order addressed by the Authorities in their closing statement.

919. However, to first put those operational changes into context, I agree with the Authorities that as Heathrow is operating near to capacity, in the event that any of the operational changes offer benefits which increase operational resilience or flexibility it is likely that they will, at some stage, be pursued by HAL [112-120]. In that respect I am conscious that HAL responded to the Airports Commission's call for proposals and evidence intended to inform "its recommendation(s) for immediate actions to improve the use of existing capacity in the next five years-consistent with credible long-term options" with a number of short term (ie capable of implementation within 5 years) and medium term (those not needing further terminals or runways but which might need more than 5 years to deliver) measures for increasing capacity - and those responses have informed the Authorities' concerns.

Operational Freedoms

920. A number of measures were assessed during the recent 'Operational Freedoms' trial at Heathrow including 'early vectoring' to improve departure rates; the tactical use of both runways for arrivals when there are delays (TEAM), and; the tactical use of the southern runway for the arrival of A380s and Terminal 4 arrivals. HAL acknowledges that these strategies would improve resilience[938]. I shall address them separately.

Early Vectoring

921. The Airports Commission noted that the airspace structures around Heathrow do not support simultaneous departures from both runways in the way that they support TEAM. The Commission also noted that whilst early vectoring trials had been shown to increase operational flexibility it had also redistributed the noise footprint. Whilst the Airports Commission recommended that early vectoring should be introduced as a permanent feature of Heathrow's operations it did so "…so long as it forms part of a permanent airspace structure". It also noted that the Government should support the airport "…in its efforts to expedite the re-definition

[938] HAL/MB/A/15 - Mr Burgess PoE Appendix 15 Para 3.7

of its departure routes both to mitigate noise impacts and to enable increased departure flow rates when necessary".

922. The Inquiry was told the HAL was not committed to early vectoring and has elected not to pursue it at this time [769]. Insofar as it has the potential to give rise to significant environmental effects but those effects are dependent on departure routes yet to be defined there is not only uncertainty as to the likely environmental effects of the measure but also uncertainty as to whether it would be approved. To my mind this does not indicate that a robust, meaningful and reliable cumulative assessment could be undertaken if it was to include early vectoring.

TEAM

923. In considering this matter I have taken TEAM, insofar as the Authorities' submissions are concerned [127], to embrace the current use of TEAM as well as 'enhanced TEAM' – which includes a reduction in the trigger point to delays of 10 minutes for the tactical use of both runways for arrivals as well as the tactical use of the southern runway for the arrivals of A380s and for T4 arrivals.

924. HAL's technical note[939] confirms that TEAM is included in the noise assessment of both the baseline and the effects arising as a result of the proposed development. The note also confirms that TEAM does not affect the number of ATMs over the course of a day and can occur during any mode of permitted operation. In the words of the note, "Put simply, TEAM will occur broadly equally over a reasonable time period across both runways. When full runway alternation occurs, TEAM is therefore unlikely to affect the LAeq 16hr and Lden contours".

925. HAL suggests that 'Enhanced TEAM' (similar to TEAM but with a shorter trigger point of 10 minute delays) would, as a tactical measure, similarly not affect the noise contours over time. Insofar as the reduced trigger point is concerned that does not seem to me an unreasonable assumption. However, as noted above, HAL considers the tactical use of the southern runway for the landing of A380s and Terminal 4 arrivals to also be part of Enhanced TEAM – and, as the Authorities point out, that does appear to have the potential to give rise to significant noise effects [132] and skew the noise contours.

926. HAL nonetheless contends that it is in any event entirely unclear how such an inherently unpredictable measure could be assessed in any meaningful and practically useful way. In contrast the Authorities note that the measures have already been trialled and that, during those trials "HAL collected detailed information on the impact on the environment". Based on the information before the Inquiry it therefore seems as though some form of estimate as to the impacts could be made, albeit within a range.

927. However, HAL also states that if it wanted to implement enhanced TEAM it would need to make an application to the CAA (who in turn would need to seek approval from the SoST) to allow the required changes to the design or provision of airspace arrangements - and any such application would need to consider the potential for significant environmental effects to occur. As no application has yet been made I

[939] INQ/50

accept HAL's view that there is insufficient certainty that these measures will occur for them to be included in a cumulative assessment.

Optimisation Strategy Recommendations

Airport Collaborative Decision Making (ACDM), Enhanced En-Route Traffic Management, Time Based Separation, Queue Management (including first come first served)

928. The Airports Commission recommended a number of measures to make better use of existing capacity including ACDM, enhanced en-route traffic management and Time Based Separation[940] - the whole point of these measures being greater predictability and resilience, particularly in arrivals. In broad terms HAL argues [765 -768] that none of these measures should be included in a cumulative assessment as they would make no material difference to the noise contours in the vicinity of the airport.

929. However, even if HAL's initial aim is solely to improve resilience, the Airports Commission noted that the most significant effect of capacity constraints at UK airports is reduced airport resilience. It therefore seems likely that HAL would at some stage seek to make use of any increased resilience by utilising as much of its 480,000 ATM cap as possible – consistent, of course, with its wider overall aims on the balance between resilience and the passenger experience. The evidence before the Inquiry suggests that this is not an unreasonable assumption to make [142] - and in consequence it is likely that these measures and the increased resilience they bring will increase the overall number of ATMs.

930. That said there is no substantive evidence before the Inquiry as to the size of any increase in ATMs that may result from these measures and I am conscious that the airport is currently operating close to its overall ATM limit - such that the potential to increase the number of ATMs appears very limited. As any increase is also likely to be distributed in a similar manner to the existing ATMs it seems to me that these changes are unlikely to cause significant environmental effects.

931. Insofar as Queue Management (including reassessing the policy of 'first come first served') is concerned it is not only likely that this will be bound up with a number of the other initiatives above but it is also intended to achieve the same ends. Consequently, similar considerations to those outlined above will apply and I see no point in pursuing this further as a separate matter.

Airspace Changes Supporting Performance Based Navigation (PBN)

932. The Airports Commission recommended that the Government should facilitate moves by industry to redesign airspace within the London area to a performance based navigation standard allowing for closer spaced departure routes where possible. By allowing aircraft positioning to be improved, PBN enables aircraft to follow departure routes more closely. In addition to providing opportunities for redesigning more effective and efficient departure routes this clearly has the potential to concentrate noise around the designated departure routes and cause significant environmental effects.

[940] CD/01/26 p136

933. However, I understand that not all aircraft using Heathrow possess the necessary technology to allow the use of PBN and that no detailed design work has been done on any alternative routes. The Authorities nonetheless suggest that, based on the trials conducted by HAL, indicative NPRs and departure swathes could have been used to inform a cumulative assessment. However, it seems to me that as this initiative is about precision in following designated departure routes, any noise effects would be highly location dependent. Consequently, the use of indicative routes would be unlikely to produce meaningful outcomes. [168-171, 753-764]

934. HAL is clear that any application in due course to introduce this measure would need to be accompanied by a rigorous and complete environmental assessment and consultation and, taking account of the likely significant environmental impacts, would need approval from the SoST.

935. In light of these matters I agree with HAL that there is insufficient information to make a robust assessment of the likely impacts and it is not something which can reasonably be presumed to go ahead.

Early Morning Smoothing

936. The Authorities categorise this as 'more night flights' in that it would seek to avoid 'bunching' around the 06.00 airport opening by allowing more arrivals between 05.00 and 05.59. This clearly has the potential to lead to significant environmental effects notwithstanding that HAL suggests that it could be achieved by permitting an increased number of flights on just one runway. [172-175]

937. HAL, however, also points out that early morning smoothing was only recommended by the Airports Commission on a trial basis and suggests that the Government has deferred making any decision on even carrying out a trial until after the publication of the Airports Commission's final recommendations (albeit the supporting reference in HAL's closing statement appears incorrect). HAL also notes that no application has been made for dispensation from the night noise regime - necessary even to undertake a trial – and that, even if a trial was successful, there would need to be an application (accompanied by an environmental assessment) on which there would need to be a decision by the SoST. [743-752]

938. In light of those factors I agree with HAL that early morning smoothing is not something that can reasonably be presumed to go ahead and as such it would not be appropriate to include it within a cumulative assessment.

Ending westerly preference

939. The Airports Commission recommended that the Government should review the need for a westerly preference with a view to introducing a 'no preference' policy. According to the Authorities, this was proposed by HAL to the Airports Commission as a change which could add capacity and was capable of being delivered in the short/medium term [176]. However, whilst appearing in the Airports Commission Interim report in the chapter entitled 'Making best use of existing capacity', the references given in the Authorities' closing statement do not appear to support the assertion that this change would add capacity; rather they suggest that HAL supports the measure as allowing for a fairer sharing of noise on both arrivals and departures. Mr Burgess confirmed in RX that ending westerly preference would not increase capacity.

940. HAL points out that there is currently no adopted or draft policy supporting the ending of westerly preference, that any such change would require an application to the CAA which would need to consider the potential for significant environmental effects to occur and that final approval would need to come from the SoST – who would only decide to proceed with adopting such a measure if it was in the public interest.

941. I therefore agree with HAL that it cannot reasonably be assumed that westerly preference will come to an end. In consequence it would not be appropriate to include it in a cumulative assessment.

Full Mixed Mode

942. The Authorities believe that the implementation of full mixed mode is reasonably foreseeable and unless that implementation is to be controlled by condition it should be included in any cumulative assessment.

943. HAL's submission to the Airports Commission was that it "is not advocating the use of mixed mode as a short-term measure to increase capacity" and HAL's evidence to the Inquiry is that "it has no plans to seek to implement mixed-mode operations at the airport". Although there is no guarantee that HAL's position would remain the same into the future, it is clear that both the Airports Commission and HAL itself recognise that the introduction of full mixed mode would come at a significant cost to the local community "….*as it would end periods of respite from noise, without providing a real solution to the UK's shortage of hub capacity*".[941]

944. Following the consultation on 'Adding Capacity at Heathrow Airport', the SoST announced in January 2009 "…..*on balance, that the benefits of mixed mode do not outweigh the impacts on those who would be adversely affected by its implementation. He has therefore decided not to support the introduction of mixed mode at Heathrow as an interim measure pending construction of a third runway*".[942] In September 2010, the Minister of State (DfT) for the subsequent Government stated that "*I can confirm that we remain firmly committed to retaining runway alternation and will not approve the introduction of mixed mode operations at Heathrow. This Government believe that any potential benefits mixed mode might bring to the airport are outweighed by the negative impact such operations would have on local communities*".

945. The Inquiry was not made aware of any subsequent changes in Government policy and HAL points out that there is no evidence that the essential factors that led to the Government's decision are materially different now.

946. The introduction of full mixed mode is clearly something with the potential to have significant environmental effects. Any application for an airspace change in the future would, according to HAL, need to accompanied by an environmental assessment and consultation and any decision would have to be taken by the SoST. No such application has been made and in light of the matters above I do not see that full mixed mode can reasonably be presumed to go ahead and it would not be appropriate to include it in a cumulative assessment.

[941] HAL/MB/P/01 Paragraph 5.3.4
[942] CD/01/25 Paragraph 70

Cumulative Assessment – conclusion

947. The Government's most up to date guidance is that contained within the PPG. In terms of screening Schedule 2 projects, it states that "*The local planning authorities should always have regard to the possible cumulative effects arising from any existing or approved development*." Insofar as that which is already existing or approved (eg TEAM – as opposed to enhanced TEAM) it is my judgement that any such measures have either been included in the environmental assessment or are unlikely to have any significant effects. Although the PPG also goes on to note that *"There could also be circumstances where two or more applications for development should be considered together",* for the reasons above I do not consider that the other measures have yet been subject to an 'application'.

948. I acknowledge that the PPG refers to the screening stage but its principles do not seem out of kilter with the general tenor of either the conclusions in HAL's Cumulative Assessment Legal Note (which itself refers to the PPG) or those in PINS Advice Note 9 - both of which, in various ways, take into account the likelihood of other development coming forward. Having applied the generality of the principles emerging from that guidance to the measures identified by the Authorities as having a potentially cumulative effect with the proposed development, I see no need for their inclusion in a cumulative assessment. Consequently I consider that the ES does adequately describe the cumulative likely significant effects of the development.

The Environmental Statement – Conclusions

949. It is important to distinguish between the ES as a means of providing the information to allow an informed decision to be made and the decision itself. The fact that an ES may be deemed to comply with the EIA Regulations does not mean that the development will necessarily be acceptable and the PPG notes that the Environmental Statement should be proportionate and not be any longer than is necessary to assess properly the "significant" environmental effects to which a development is likely to give rise. In addition the regulatory framework is clear that an ES should contain information *reasonably* required to assess the effects of the project and which the applicant can *reasonably* be required to compile (my emphases).

950. Sullivan J noted in R (Blewett) v. Derbyshire CC that *"In light of the environmental information the local planning authority may conclude that the environmental statement has failed to identify a particular environmental impact, or has wrongly dismissed it as unlikely or not significant. Or the local planning authority may be persuaded that the mitigation measures proposed by the applicant are inadequate or insufficiently detailed. That does not mean that the document described as an environmental statement falls outwith the definition of an environmental statement within the Regulations so as to deprive the authority of jurisdiction to grant planning permission. The local planning authority may conclude that planning permission should be refused on the merits because the environmental statement has inadequately addressed the environmental implications of the proposed development, but that is a different matter altogether……."*

951. It is against this background and for the detailed reasons above that I conclude that the submitted Environmental Statement is, despite its shortcomings, adequate and compliant with the EIA Regulations. I now turn to the main issues identified above.

GREEN BELT

Green Belt Policy

952. Saved UDP Policy OL1 states amongst other matters that within the Green Belt, certain 'open land uses' will be acceptable. These are listed as agriculture, horticulture, forestry and nature conservation, open air recreational facilities and cemeteries. The policy goes on to say that the Council will not grant planning permission for new buildings or for changes of use of existing land and buildings other than for purposes essential for and associated with those uses – albeit the policy acknowledges that limited infilling or redevelopment of major existing developed sites in accordance with certain criteria is considered appropriate.

953. Saved UDP Policy OL4 states that the Council will only permit the replacement or extension of buildings within the Green Belt if: (i) the development would not result in any disproportionate change in the bulk and character of the original building; (ii) the development would not significantly increase the built up appearance of the site; (iii) having regard to the character of the surrounding area the development would not injure the visual amenities of the Green Belt by reason of siting, materials, design, traffic or activities generated.

954. Policy 7.16 of the London Plan 2015 supports the protection of the Green Belt from inappropriate development and notes that inappropriate development should be refused, except in very special circumstances.

955. The National Planning Policy Framework (NPPF) notes at Paragraph 87 that inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. Paragraph 88 is clear that when considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt and that very special circumstances will not exist unless the potential harm to the Green Belt, and any other harm, is clearly outweighed by other considerations. The CoA judgment in *SSCLG v. Redhill Aerodrome Ltd* [2014] EWCA Civ 1386 makes it clear that the reference to "*any other harm*" is not limited to any other *Green Belt* harm.

956. NPPF Paragraph 89 is also clear that a local planning authority should regard the construction of new buildings as inappropriate in the Green Belt subject to certain exceptions such as: the extension or alteration of a building provided that it does not result in disproportionate additions over and above the size of the original building, and; the replacement of a building, provided the new building is in the same use and not materially larger than the one it replaces.

957. In addition, NPPF Paragraph 90 states that "Certain other forms of development are also not inappropriate in Green Belt provided they preserve the openness of the Green Belt and do not conflict with the purposes of including land in Green Belt. These include local transport infrastructure which can demonstrate a requirement for a Green Belt location. I note that the development plan policies are not in all respects entirely consistent with the NPPF. As the latter is a recent statement of Government policy, where there is inconsistency the weight accorded to the development plan policies must be reduced in accordance with NPPF Paragraph 215.

Whether or not that part of the proposed development lying in the Green Belt should be regarded as inappropriate

958. INQ/31A shows the location of the proposed acoustic barrier in relation to both the Green Belt and Conservation Area boundaries. The proposed barrier is intended to be some 5m in height with a total length of around 590m[943] - of which I understand just over 200m would lie in the Green Belt. To facilitate erection of the proposed barrier, the existing 3m high noise barrier alongside Wright Way would be removed (albeit that barrier lies outside of the Green Belt) as would around 310 m of the existing close boarded fence bounding the T5 business car park (part of which does lie within the Green Belt)[944].

959. Although the detailed design of the acoustic barrier is yet to be finalised (see the suggested condition, agreed between the parties, at INQ/52A), in essence it is intended that the upper 2m of the barrier would be formed from a clear Perspex-like material as illustrated by the photomontages at Appendix V of the ES. In any event, whether or not the upper part of the proposed acoustic barrier is made from a transparent material I am clear that the barrier should be regarded as a 'building'. Neither main party seriously argues for a different approach.

960. HAL nonetheless considers that the noise barrier should not be regarded as inappropriate development in the Green Belt suggesting firstly, by reference to NPPF Paragraph 89, that the proposed barrier would be in the same use and not materially larger than the 'building' it would replace. Secondly, by reference to NPPF Paragraph 90, HAL suggests that the proposed barrier should be regarded as local transport infrastructure requiring a Green Belt location and that it would preserve the openness of the Green Belt and would not conflict with the purposes of including land in Green Belt.

961. To my mind neither of HAL's contentions is well founded. Firstly, it is highly debateable as to whether the proposed acoustic barrier would be in the 'same use' as the fence it would replace. As noted earlier, the existing acoustic barrier running alongside Wright Way is not within the Green Belt and what the proposed barrier would actually be replacing within the Green Belt is more accurately described on the drawings as a 'close boarded fence'. Whilst I have no doubt that the fence has some effect on noise emanating from the airport I saw on my visit that the structure of the existing acoustic barrier along Wright Way is markedly different to that of the fence - and is clearly designed for a different purpose. The proposed acoustic barrier would also be different in construction to the existing fence. I do not therefore believe it can realistically be argued that the acoustic barrier would be in the same use as the fence it would replace. In any event, even though the proposed acoustic barrier would be replacing a similar length of fencing in the Green Belt, the acoustic barrier would be some 67% higher than the fence and thus, in my judgement, materially larger. In consequence I do not regard the proposed barrier as falling within the exceptions listed in NPPF Paragraph 89.

962. Insofar as NPPF Paragraph 90 is concerned, the proposed barrier cannot itself be described as local transport infrastructure. HAL nonetheless sought to argue that

[943] Drg No 10000-00-GA-XXX-000148 v1
[944] Drg No 10000-00-GA-XXX-000153 v2

the barrier is ancillary to transport infrastructure and is proposed for the localised benefit of nearby residents. However, whilst I accept that in some circumstances there may be an argument to regard certain ancillary works as being embraced by the term 'local transport infrastructure', the noise barrier is intended to mitigate the effects of noise caused by Heathrow Airport – and Heathrow Airport cannot in my view be regarded as 'local' transport infrastructure. To take a different view, notwithstanding that I accept that the barrier is intended to mitigate the effect of airport noise on local people, would be to beg the question as to what kind of transport infrastructure might actually fall outside the 'local' categorisation.

963. HAL also points out that the Council treated the acoustic barrier and the Personal Rapid Transport System (PRT) differently in assessing whether they should be regarded as local transport infrastructure, suggesting that any distinction was artificial as both serve the international airport and both have an important local amenity and transport function. However, whilst I accept that both serve the airport and would be unlikely to exist in its absence, it seems to me that a distinction can be drawn between a static acoustic barrier and a transport system aimed at conveying passengers between an outlying car park and the airport terminal. At the very least the latter does provide local transport, albeit in an ancillary role. In any event I have approached the question of whether the proposed acoustic barrier can be seen as local transport infrastructure from first principles and I am not persuaded by the Council's treatment of the PRT to alter my view above that the proposed barrier cannot be categorised as local transport infrastructure.

964. Irrespective of its effect on the openness and purposes of the Green Belt I do not therefore regard the proposed barrier as falling within any of the categories listed in NPPF Paragraph 90.

965. The courts[945] have held that Paragraphs 89 and 90 should be treated as closed lists meaning that development in the Green Belt is deemed inappropriate unless it is one of the exceptions identified in Paragraph 89 or one of the forms of development explicitly identified in Paragraph 90. For the reasons above I consider that where the proposed acoustic barrier would be located in the Green Belt it should be deemed inappropriate development and it should not be approved except in very special circumstances.

The effect of the proposed development on the openness of the Green Belt

966. At around 5m in overall height the proposed acoustic barrier would be some 2m (or 67%) higher than the existing fence. I have already noted that I consider that the proposed barrier would be materially larger than the existing fence and as openness can be characterised as an absence of built development I am also clear that the proposed barrier would materially and adversely affect the openness of the Green Belt. NPPF Paragraph 88 is clear that substantial weight should be given to any harm to the Green Belt.

967. I am conscious that HAL maintains that there would be no material harm to openness in that there are already other structures in the area and the principle of a

[945] Fordent Holdings Limited v Secretary Of State For Communities And Local Government - Neutral Citation Number: [2013] EWHC 2844 (Admin)

"*barrier*" in this location is already firmly established. HAL also suggests that the transparent material in the upper section would minimise any effect on openness and any visual intrusiveness. However, whilst I accept that the transparent section would have some effect in reducing the barrier's visual prominence the full height of the barrier would nonetheless still be obvious (as illustrated by the photomontages at Appendix V of the ES) - and the fact that there is already other development present in the area does not alter the fact that the proposed barrier would increase the overall amount of development in the Green Belt. Consequently I see none of these matters as having any significant effect on my conclusion that the proposed barrier would materially and adversely affect the openness of the Green Belt.

CHARACTER AND APPEARANCE OF THE AREA

968. The proposed works within the airport boundary are minor in nature and consistent with the existing airport infrastructure. In consequence they would have no material impact on the area's character and appearance.

969. However, as noted above, the proposed noise barrier alongside Longford would be materially larger than the existing fence. The photomontages at Appendix V of the ES show that whilst it would have only a limited visual impact in certain views there would be a significant enclosing effect when seen from within the Longford 'pocket park'. It is also likely that the proposed barrier would appear as a bulky and intrusive structure when seen from the direction of the airport perimeter road.

970. The impact of the barrier would however be tempered somewhat both by the use of perspex in its upper section and by the proposed landscaping – which could be secured by condition. I am also conscious that the area surrounding the airport already contains a number of large and, on occasion, fairly utilitarian structures. Indeed, the photomontages show how the barrier would be seen in many views against a background of either T5 (albeit at a distance) or in conjunction with either the Personal Rapid Transport System (PRT) or the 'T5 Business Car Park'. Nonetheless, even taking those matters into account it is my judgement that the proposed barrier would result in some limited harm to the general character and appearance of the area contrary to UDP Policies BE13 and BE19 - which amongst other matters seek for development to harmonise with or complement the character and appearance of an area.

971. Insofar as the nearby conservation area (CA) is concerned I agree with HAL that Longford village tends to 'turn its back' on the airport and that, in addition, much of the south eastern boundary of the CA is quite heavily vegetated. I am also conscious that a number of areas immediately to the south of the CA boundary already appear somewhat utilitarian. In consequence, and despite the barrier causing some limited harm to the general character and appearance of the area, I do not consider that the proposed noise barrier would affect the significance of the nearby CA.

LIVING CONDITIONS – NOISE

Introduction

972. As part of its re-affirmation of the previous Government's decision to end the Cranford agreement, in 2010 the then Minister of State, Department for Transport, stated that "*I will look to BAA to ensure that proper consideration is given to*

appropriate mitigation and compensation measures for those likely to be affected by the proposals."

973. The Authorities accept that the decision to end the Cranford agreement has been made but are nonetheless concerned to ensure that the necessary mitigation is secured by means of conditions or obligations [188]. Clearly that is the nub of this appeal. This section therefore looks at whether, in respect of noise, the mitigation and compensation measures being proposed by HAL can be regarded as 'appropriate'.

974. As the appeal has been made under section 78 of the Town and Country Planning Act 1990 against the LPA's refusal to grant planning permission s.38(6) of the Planning and Compulsory Purchase Act 2004 makes it clear that any determination must be made in accordance with the development plan unless material considerations indicate otherwise. I therefore intend to begin this section by addressing what I see as the most relevant of the development plan policies drawn to the Inquiry's attention together with other current and relevant policy and guidance pertaining to noise. I shall then turn to the generic issues of how residents and communities react to noise before turning to the significance of the scheme specific impacts and the proposed mitigation.

The Policy and Guidance Framework applicable to noise

975. In order to better understand the relationships and interdependencies between the policies and guidance referred to below, each section begins with an outline of when the particular policy/guidance was published.

Development Plan Policies

976. The development plan includes the Hillingdon Local Plan Part 1: Strategic Policies (2012) (LP), the saved policies of the Hillingdon Unitary Development Plan (2007)(UDP)(albeit subsequently adopted as Part 2 of the Local Plan in 2012) and the London Plan (2015 – consolidated with alterations since 2011)(LoP). I consider the most relevant policies in respect of noise to be LP Policies EM8 and T4, UDP Policies A2, OE1 and OE3 and LoP Policies 6.6 and 7.15.

977. LP Policy EM8 seeks to ensure that noise generating development is only permitted if noise impacts can be adequately controlled and mitigated and Policy T4 seeks to support the sustainable operation of Heathrow Airport within its present boundaries whilst improving environmental conditions such as noise. UDP Policy A2 concerns applications for proposals within the boundary of Heathrow Airport which are likely to have a significant adverse environmental impact and seeks sufficient measures to mitigate for or redress the effects of the airport on the local environment. Policies OE1 and OE3 seek, in various ways, to control the noise impacts of development.

978. The Authorities have also drawn my attention to LP Strategic Objectives SO10, which aims to reduce adverse impacts from noise, and SO25 which aims to "maintain support for operational uses within the existing airport boundary that do not increase environmental impacts and continue to reduce existing impacts".

979. Although the Authorities also refer to UDP Policy A1, this concerns proposals which extend Heathrow Airport on land to the north of Bath Road (A4(T)) or otherwise increase the airport runway capacity - and in my view is of limited relevance here. In any event the principles underlying the policy add little to those of the other

policies above - the clear intent of which is to ensure that the noise impacts of development are adequately controlled and mitigated.

980. The most relevant LoP policies are: Policy 6.6 which notes that development proposals affecting aircraft operations or patterns of air traffic should give a high priority to sustainability and should take full account of environmental impacts (including noise), and; Policy 7.15 which amongst other matters seeks for development proposals to manage noise by avoiding significant adverse noise impacts on health and quality of life as a result of new development and by mitigating and minimising the existing and potential adverse impacts of noise resulting from new development - without placing unreasonable restrictions on new development or adding unduly to the costs and administrative burdens on existing businesses.

981. In their closing statement the Authorities also refer to LoP policies 2.6, 3.2 and 5.3. However, whilst these policies are not inconsistent with those above, nor do they add to them in any material way. Indeed, it seems to me that the provision of adequate mitigation (which in this context I see as being synonymous with the term 'appropriate mitigation' as used by the Minister in 2010) would lead to compliance with all the development plan policies identified above. That said, nothing associated with the development plan policies gives any quantitative assistance in determining what might be regarded as 'adequate' or 'appropriate' mitigation - for that it is necessary to turn elsewhere.

The NPPF

982. The NPPF was published in March 2012 and, as a statement of Government policy, is a material consideration of substantial weight in planning decisions. Section 11 (Conserving and enhancing the natural environment) is of particular relevance in respect of noise. Paragraph 109 notes that the planning system should contribute to and enhance the natural and local environment by, amongst other matters, preventing new development from contributing to unacceptable levels of noise pollution.

983. Paragraph 123 notes that planning decisions should aim to:

> • avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
>
> • mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions..."

In order to better understand the meaning of 'significant adverse impacts' and 'other adverse impacts' the reader is referred to the Explanatory Note to the Noise Policy Statement for England (NPSE). The note explains that "significant adverse" and "adverse" are concepts derived from toxicology and that LOAEL (Lowest Observed Adverse Effect Level) is the level above which adverse effects on health and quality of life can be detected and that SOAEL is the level above which significant adverse effects on health and quality of life occur.

The NPSE

984. The NPSE was published in 2010. Paragraph 1.5 states that the NPSE should apply to all forms of noise, excepting noise in the workplace, and Paragraph 1.6 makes it clear that the NPSE sets out the long term vision of Government noise policy. That vision is stated as to "*Promote good health and good quality of life through the effective management of noise within the context of Government policy on sustainable development.*"

985. Paragraph 1.7 sets out that the long term vision is supported by three noise policy aims which, through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development, are to:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.

986. The Explanatory Note to the NPSE states at 2.23 and 2.24 that the first two aims above mean that, whilst taking into account the guiding principles of sustainable development, significant adverse impacts on health and quality of life (ie those involving noise at levels above SOAEL) should be avoided and, where noise levels lie between LOAEL and SOAEL, all reasonable steps should be taken to mitigate and minimise adverse impacts on health and quality of life – albeit that does not mean that such adverse effects cannot occur. The Authorities consider it important that the SoS should ask the question as to whether HAL has taken all such reasonable steps.

987. Paragraph 2.22 considers that it is not possible to have a single value for SOAEL and that, until further evidence and suitable guidance is available, SOAEL is likely to be different for different noise sources.

The PPG

988. The PPG represents the most up to date Government guidance with the version relied on at the Inquiry in respect of noise being that variously updated on the 6 March 2014 and the 24 December 2014 (INQ/8). It acknowledges that noise can override other planning concerns but points out that both the NPSE and the NPPF do not expect noise to be considered in isolation from the economic, social and other environmental dimensions of the proposed development.

989. Paragraph 003 (Reference ID: 30-003-20140306) notes that local planning authorities' decision taking should take account of the acoustic environment and in doing so consider whether or not a significant adverse effect is occurring or likely to occur; whether or not an adverse effect is occurring or likely to occur; and whether or not a good standard of amenity can be achieved. The paragraph goes on to note that this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

990. Paragraph 005 (Reference ID: 30-005-20140306) explains that below LOAEL, noise will be noticeable but not intrusive, there would be no observed adverse effects and no specific measures would be required. Between LOAEL and SOAEL noise would be noticeable and intrusive, there would be observed adverse effects and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise). (NB. Although the summary table merely describes the action as 'Mitigate and reduce to a minimum' the text is rather more expansive and reflects the policy aims of the NPPF and NPSE by taking into account wider sustainability issues).

991. Above SOAEL, noise would be noticeable and disruptive, would have a significant observed adverse effect and should be avoided. The text makes it clear that if noise is above this level the *"….planning process should be used to avoid this effect occurring, by use of appropriate mitigation such as by altering the design and layout. Such decisions must be made taking account of the economic and social benefit of the activity causing the noise, but it is undesirable for such exposure to be caused.*"

992. Paragraph 005 also introduces the concept of the Unacceptable Adverse Effect (UAEL) where noise would be noticeable and very disruptive causing extensive and regular changes in behaviour. The text notes that "*At the highest extreme, noise exposure would cause extensive and sustained changes in behaviour without an ability to mitigate the effect of noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be prevented from occurring."*

993. Paragraph 006 (Reference ID: 30-006-20141224) notes that the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected and will depend on how various factors, such as the level of noise, the time of day at which it occurs, the number of noise events and the frequency and pattern of occurrence. It goes on to note that "*In cases where existing noise sensitive locations already experience high noise levels, a development that is expected to cause even a small increase in the overall noise level may result in a significant adverse effect occurring even though little to no change in behaviour would be likely to occur*."

994. Paragraph 008 (Reference ID: 30-008-20140306) notes that the adverse effects of noise can be mitigated by such matters as engineering (reducing the noise generated at source and/or containing the noise generated), layout (including the minimising of noise transmission through the use of screening by natural or purpose built barriers), the use of planning conditions/obligations to restrict activities at certain times and through the use of noise insulation when the impact is on a building.

995. Notwithstanding the expansive nature of the guidance outlined above, nothing in the PPG quantifies LOAEL, SOAEL or UAEL. However, Paragraph 009 (Reference ID: 30-009-20140306) notes that the management of the noise associated with aircraft is considered in the APF.

The APF

996. The APF was published in March 2013. As an up-to-date statement of Government aviation policy setting out the Government's objectives and principles to guide plans

and decisions at local and regional level it is a material consideration of very substantial weight.

997. Chapter 3 deals with noise and other local environmental impacts, the Government recognising that noise is the primary concern of local communities near airports. Paragraph 3.9 notes that the Government has powers under the Civil Aviation Act 1982 to set noise controls at specific airports which it designates for noise management purposes. Heathrow is one such airport and Paragraph 3.10 notes that, as it is one of the airports that remains strategically important to the UK economy, it is considered *"….appropriate for the Government to take decisions on the right balance between noise controls and economic benefits, reconciling the local and national strategic interests*". At a more general level, Paragraph 3.12 notes that the Government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise - with Paragraph 3.13 noting that this is consistent with the Government's noise policy set out in the NPSE.

998. Beyond those general aims there are a number of more detailed statements in later APF paragraphs that I consider to be of immediate and particular relevance in helping to clarify the Government's position on the matters at issue in this case. These are:

> Paragraph 3.14: "*Although there is some evidence that people's sensitivity to aircraft noise appears to have increased in recent years, there are still large uncertainties around the precise change in relationship between annoyance and the exposure to aircraft noise.*"
>
> Paragraph 3.15: "*To provide historic continuity, the Government will continue to ensure that noise exposure maps are produced for the noise-designated airports on an annual basis providing results down to a level of 57dBLAeq 16hr"*.
>
> Paragraph 3.17: "*We will continue to treat the 57dBLAeq 16hr contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance. However, this does not mean that all people within this contour will experience significant adverse effects from aircraft noise. Nor does it mean that no-one outside of this contour will consider themselves annoyed by aircraft noise.*"
>
> Paragraph 3.18: "*The Airports Commission has also recognised that there is no firm consensus on the way to measure the noise impacts of aviation and has stated that this is an issue on which it will carry out further detailed work and public engagement. We will keep our policy under review in the light of any new emerging evidence.*"
>
> Paragraph 3.19: "*Average noise exposure contours are a well established measure of annoyance and are important to show historic trends in total noise around airports. However, the Government recognises that people do not experience noise in an averaged manner and that the value of the LAeq indicator does not necessarily reflect all aspects of the perception of aircraft noise. For this reason we recommend that average noise contours should not be the only measure used when airports seek to explain how locations under flight paths are affected by aircraft noise.*"

999. A later section of Chapter 3 is headed 'Measures to reduce and mitigate noise – the role of industry'. It is again worth reproducing some paragraphs here:

> Paragraph 3.24: "*The acceptability of any growth in aviation depends to a large extent on the industry tackling its noise impact. The Government accepts, however, that it is neither reasonable nor realistic for such actions to impose unlimited costs on industry. Instead, efforts should be proportionate to the extent of the noise problem and numbers of people affected*."
>
> Paragraph 3.28: "*The Government expects airports to make particular efforts to mitigate noise where changes are planned which will adversely impact the noise environment. This would be particularly relevant in the case of proposals for new airport capacity, changes to operational procedures or where an increase in movements is expected which will have a noticeable impact on local communities. In these cases, it would be appropriate to consider new and innovative approaches such as noise envelopes or provision of respite for communities already affected*."

1000. Paragraphs 3.36 – 3.41 form a section headed 'Noise insulation and compensation'. The paragraphs of most relevance are:

> Paragraph 3.36: "*The Government continues to expect airport operators to offer households exposed to levels of noise of 69 dB LAeq,16h or more, assistance with the costs of moving."*
>
> Paragraph 3.37: "*The Government also expects airport operators to offer acoustic insulation to noise-sensitive buildings, such as schools and hospitals, exposed to levels of noise of 63 dB LAeq,16h or more. Where acoustic insulation cannot provide an appropriate or cost-effective solution, alternative mitigation measures should be offered."*
>
> Paragraph 3.39: *"Where airport operators are considering developments which result in an increase in noise, they should review their compensation schemes to ensure that they offer appropriate compensation to those potentially affected. As a minimum, the Government would expect airport operators to offer financial assistance towards acoustic insulation to residential properties which experience an increase in noise of 3dB or more which leaves them exposed to levels of noise of 63 dB LAeq,16h or more."* The Authorities point out that the draft APF contained no corresponding paragraph and that HAL has been unable to identify any formal review as having taken place. [236, 238]
>
> Paragraph 3.40: "*Any potential proposals for new nationally significant airport development projects following any Government decision on future recommendation(s) from the Airports Commission would need to consider tailored compensation schemes where appropriate, which would be subject to separate consultation."*

Other plans

1001. The London Borough of Hounslow Unitary Development Plan (2003) (HoUDP) is also a material consideration of appreciable weight. HoUDP Policy ENV-P.1.5 notes that "*the Council will not allow any development proposals which could result in unacceptable levels of noise nuisance to nearby existing or future occupiers*".

1002. The emerging Hounslow Local Plan is a further material consideration that should be accorded moderate weight. Emerging Policy EQ5 deals with noise and states that "*we will seek to reduce the impact of noise from aviation……and require the design of new development to have considered the impact of noise, and mitigation of these impacts, on new users and surrounding uses according to their sensitivity*". This will in part be achieved by "…….*working with Heathrow Airport to improve conditions for households and other noise sensitive uses exposed to high levels of noise consistent with the Aviation Policy Framework*…..". Development proposals will be expected to, inter alia, "*Ensure that noise mitigation measures are implemented, to demonstrate compliance with British Standard BS8233:2014 – Guidance on sound insulation and noise reduction for buildings, as appropriate*" – with the Authorities arguing that the reference to BS8233:2014 is not limited to new build homes.

1003. The notes to emerging Policy EQ5 state amongst other matters that "*Between the 69dBA LAeq and 63dBA LAeq contours there will be a presumption against family housing, whilst other smaller one bed and studio housing will only be accepted where high levels of sound insulation and ventilation are provided*" and "*In addition, between 63 and 57DBA LAeq contours all new built development, including residential extensions, should have high levels of sound attenuation and acoustically treated ventilation*." It is later stated that *"……the borough considers that the 69dB(A) LAeq 16hr contour represents a Significant Observed Adverse Effect Level (SOAEL). As such residential developments within this area are not permitted*."

1004. Emerging Policy EC3 deals specifically with Heathrow Airport and seeks to encourage a more sustainable Heathrow Airport by working with the airport operator and other partners to reduce environmental impacts whilst recognising the airport's role in the local economy. Development proposals will be expected to demonstrate that air and noise pollution from aircraft movements avoid adverse impacts on the borough and will be expected to assess and illustrate the noise impacts of any development proposal, including the use of alternative noise metrics (ie alternative in addition to dB LAeq 16hr).

The Policy and Guidance Framework applicable to noise - conclusions

1005. To my mind the provision of adequate/appropriate mitigation and compensation (which of course first involves the adequate assessment of any effects) would lead to compliance with all the development plan policies identified above. It would also lead to compliance with the Government's overall aims on noise as expressed through the NPPF, NPSE and APF as well as the guidance in the PPG insofar as 'appropriate' may be taken to include 'proportionate'. The question nonetheless remains as to how to establish what might be regarded as adequate/appropriate mitigation.

1006. Notwithstanding the Authorities' submissions to the effect that the APF was accorded more prominence and weight by HAL's witnesses than should have been the case, the APF offers perhaps the most detailed guidance on how to assess whether any mitigation might be deemed adequate and appropriate. However, whilst the APF states that the Government will continue to treat the 57dBLAeq 16hr contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance, the Authorities believe that the onset of community annoyance begins at a lower level of around 55dB Lden (equivalent at Heathrow to around 53/54 dBLAeq 16hr).

1007. The Authorities also contend that whilst the APF expects airport operators to offer financial assistance towards acoustic insulation to residential properties which experience an increase in noise of 3dB or more which leaves them exposed to noise levels of 63db LAeq 16hr or more, evidence has shown people to be more sensitive than the APF assumes, especially at the higher noise levels.

1008. Indeed, the Authorities point out that the APF itself recognises that there is some evidence that people's sensitivity to aircraft noise appears to have increased in recent years. I am also conscious that the PPG, the most recent of Government guidance, notes that where noise levels are already high, even a small increase in the overall noise level may result in a significant adverse effect occurring. It is therefore to matters of sensitivity and the significance of changes that I turn next.

Sensitivity to aircraft noise

1009. The APF notes that there is some evidence that people's sensitivity to aircraft noise appears to have increased in recent years. However, it also notes that there are still large uncertainties around the precise change in the relationship between annoyance and the exposure to aircraft noise - and continues to rely on 57dBLAeq 16hr contour as marking the approximate onset of significant community annoyance. The Authorities however suggest that the onset of community annoyance begins at a lower level and consider that there has been substantial evidence of a shift in tolerance or sensitivity to aircraft noise since the Air Noise Index Study (ANIS) was carried out in the early 1980s – ANIS being the basis for the APF's reliance on the 57dBLAeq 16hr contour as representing the approximate onset of significant community annoyance.

1010. That said, the APF was published in 2013 and was drafted in light of not only ANIS (published in 1985) but also the study into Attitudes to Noise from Aviation Sources in England (ANASE)(published in 2007) - ANASE being a study commissioned in 2002 by the DfT in part to re-assess attitudes to aircraft noise in England and their correlation with the Leq noise index. The aim of ANASE was to allow the Government to review national policy on noise from aircraft on a robust evidential basis.

1011. The Authorities point out that the ANASE study found that average annoyance was greater than in the previous ANIS survey and that in consequence two opposing hypotheses can be inferred. Firstly, that either LAeq is the appropriate measure and more people are now annoyed by a given sound level than was the case in the early 1980s or, secondly, that LAeq is not the appropriate measure and annoyance would better correlate with another measure of aircraft noise such as one based on the sound level of the aircraft and the number of movements.

1012. It is clear that the authors of the APF were aware of the findings of the ANASE study in that the draft APF[946] notes that the Government acknowledges that research in recent years suggests that the balance of probability is that people are now relatively more sensitive to aircraft noise than in the past - that research including both the ANASE report and the EEA Technical Report No 11/2010 from the European Environment Agency. The APF nonetheless continued to treat the

[946] CD/01/31 p53 footnote 94

57dBLAeq 16hr contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance.

1013. The Authorities suggest that this was in part consequent on criticisms of the ANASE work by a non stated preference peer review group who took issue with several aspects of the ANASE work - including such matters as the design of the questionnaire, the use of loudspeakers during the interviews and the use of noise monitoring equipment for calibrating aircraft noise calculation models in the areas where the interviews were taking place. The Authorities point out that those criticisms have since been addressed in a report published in September 2013[947] - after the publication of the APF (March 2013).

1014. The later report, unlike the original government-commissioned ANASE report, was commissioned by the London Borough of Hillingdon on behalf of the '2M group' of local authorities around Heathrow airport. It was nonetheless written by the authors of the original ANASE study. It suggests that the findings of the ANASE study are "more robust than the previous ANIS study", are "more up-to-date", are "consistent with non survey-based sources of reported community annoyance" and are "consistent with the current known situation across Europe".

1015. The Authorities regard that later report (and the ANASE study itself, even if only the restricted data is used) as support for the view that sensitivity to aviation noise has increased - and in consequence consider that the probable modern equivalent for the approximate threshold for the onset of significant community annoyance is around 53 to 54dB LAeq 16hr rather than 57dB. In further support of their view the Authorities have also drawn my attention to a range of other matters - including the National Noise Attitude Survey report (NNAS)(2014), the 2010 study "Trends in aircraft noise annoyance: the role of study and sample characteristics"[948] as well as HAL's reliance on the 55 Lden metric at other times and in other situations. [271-284]

1016. Considering each of those matters in turn, as far as the NNAS is concerned, it was published by Defra in December 2014 and post-dated the APF [280-285]. According to the Authorities the NNAS demonstrates a strongly significant increase in people's annoyance response to aircraft noise (despite no material increase in the proportion of people hearing noise) – which the Authorities suggest clearly indicates that there will be greater numbers of people more annoyed by aircraft noise at lower levels now than there would have been 30 years ago when the 57dB LAeq,16 hour level was set. HAL, however, takes the view that the NNAS is not comparable to either ANASE or ANIS in that it did not consider dose responses; considered the population as a whole; and, considered all forms of environmental noise rather than just aircraft noise.

1017. HAL also suggests that changes to the survey composition when compared to the previous NNAS may in any event have materially affected the answers given to the relevant questions. As such HAL considers that the NNAS falls well short of being a major change in the evidence supporting the APF policy and does not, with regard to Paragraph 5.4 of the APF, support a policy review and refresh. I agree with HAL's reasoning.

[947] CD/02/14
[948] INQ/14

1018. As far as the study into "Trends in aircraft noise annoyance: the role of study and sample characteristics" (2010) is concerned, the Authorities note that it concludes that *"A significant increase over the years was observed in expected annoyance at a given level of aircraft noise exposure*". However, I am conscious that the concluding section also goes on to note that a limitation of meta-regression analysis is that some of the characteristics which differ between studies can be highly correlated - making it difficult to differentiate between their effects such that caution should be taken in the interpretation of the effects. That said, as the Authorities also point out, the conclusion states that "*Despite the uncertainties with regard to its explanation, it is clear from the observed trend that the applicability of the current exposure-annoyance relationship for aircraft noise... should be questioned*."

1019. With regard to HAL's use of 55Lden/53dB LAeq, 16 hour level as the threshold for significant community annoyance effects, the Authorities point to its use at the ES scoping stage – where it was said to be consistent with the mapping requirements arising from EU Directive 2002/49/EC and the preferred measure used by the European Union. In that regard the Authorities note that CAP1165 states that "*the standard European measure is the 55 dBA Lden noise contour.... Throughout this document we take the 57 dBA LAeq, 16 hour contour, as the UK's current accepted representation of the onset of significant annoyance, to allow comparison on a like-for-like basis. However... there are a variety of competing and complementary metrics available to represent aviation noise and use of 57dBA LAeq, 16 hour should not be interpreted as a belief that is the sole effective measurement*."

1020. The Authorities also note that the use of the 55Lden level was judged to be relevant and important in the Health and Equality Impact Assessment; that HAL's Noise Action Plan (NAP) uses the 55 Lden contour as well as the 57dBA LAeq, 16 hour contour, and; that HAL has also offered a new noise insulation scheme based on the 55Lden noise contour in the context of the third runway (R3) proposal.

1021. Against this background it seems to me that, notwithstanding that the Government's endorsement of the APF is fairly recent, there must be some serious question marks over the continuing reliance on 57dBA LAeq, 16 hour as the approximate onset of significant community annoyance.

1022. HAL, however, points out that it is not the role of a s78 appeal to review whether or not Government policy is appropriate. That of course is true. Indeed, as a statement of current Government policy the APF must also attract considerable weight. Nevertheless I accept that there could be other factors of even greater weight. The question, in the context of this s78 appeal, is therefore whether or not any of the other matters before the Inquiry should be accorded more weight than the APF – and, as the Authorities point out, whilst the APF continues to treat the 57dBLAeq 16hr contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance that does not preclude operators from offering insulation and compensation at lower levels than those indicated in the APF.

1023. Another way to consider the issue is whether or not compliance with the Government's expectations on insulation and compensation as set out in the APF would be sufficient to also ensure compliance with the development plan. In order to help answer that question it is first necessary to determine whether the other considerations raised by the Authorities are of sufficient weight to conclude that

55Lden should be preferred to 57dB LAeq 16hr as the approximate onset of significant community annoyance in the determination of this appeal.

1024. In that regard I agree with HAL that the decision to retain the use of 57dB LAeq 16hr in the APF as a measure marking the onset of significant community annoyance would not have been taken lightly or in ignorance of the controversy surrounding that approach [528, 529]. I also agree with HAL that it would be inappropriate to continuously revisit that policy decision from first principles on a case by case basis. To my mind any new evidence coming to light would therefore need to be very substantive and weighty if it is to demonstrate that a decision should be made otherwise than in accord with the APF.

1025. I have already noted that the ANASE study would have been a consideration in formulating the APF. Whilst the response of the report's authors to the criticisms raised by the peer review group followed publication of the APF and does therefore represent a new matter to be taken into account, on the basis of the information before the Inquiry I see no reason to prefer the authors' response over that of the peer review. Indeed, the fact that it was carried out by the authors of the original report means that it could be seen as having less independence than the peer review. As such I consider that the response to the criticisms of the ANASE report can attract little weight.

1026. As far as the NNAS is concerned I accept HAL's criticisms of its shortcomings in the context of this appeal and therefore accord it no more than limited weight. The study on "Trends in aircraft noise annoyance: the role of study and sample characteristics" should also be accorded very limited weight in that it seems to me to do little more than raise a question mark over the applicability of the current exposure-annoyance relationship. It was in any event published before the APF and would therefore have been available to those drafting the APF.

1027. Turning to the use of the 55 dBA Lden contour, although the Authorities refer to the fact that CAP 1165 (2014) recognises that Lden is the standard European measure and that 57dBA LAeq, 16 hour should not be interpreted as a belief that it is the sole effective measurement, CAP 1165 also notes that "*The adoption of Leq as the UK Aircraft Noise Index followed extensive surveying of attitudes to aircraft noise and resulted in a dose-response relationship linking levels of community annoyance to Leq*"[949]. Although it is recognised that the dose response relationship underpinning the use of 57dBA LAeq, 16 hour dates from 1982 and "…..*that some stakeholders consider the relationship to be no longer valid*", CAP 1165 also states that "*We believe that any noise metric and levels used for policy assessment should be evidence based and support the need for a new aviation noise attitude survey*".

1028. For the reasons above I do not consider that the NNAS can be seen as representing such a survey and in any event, none of the expressed reservations in CAP 1165 go so far as to prevent it from taking "…….*the 57 dBA LAeq, 16 hour contour, as the UK's current accepted representation of the onset of significant annoyance."* In consequence I see CAP 1165 as offering little support to the use of 55Lden here.

1029. With regard to HAL's reference to 55Lden at the time of the ES Scoping Report, the Authorities' view is that it is 'entirely apparent' from the scoping report and the

[949] CD/02/12 p20

correspondence that followed[950] that what HAL had decided to do was use a lower threshold as the marker for the onset of significant community annoyance than that found in then extant Government policy. For its part HAL maintains that the provision of data in the ES using Lden was in order to allow an assessment to be made using that metric in the event that the decision maker found it useful or helpful. However, whilst that may be so, it does not seem to me to be a complete explanation of the way that HAL treated the use of 55 dBA Lden in the Scoping Report and subsequent correspondence.

1030. In particular, having noted in the ES Scoping Report that the number of people exposed to various Lden contours (as well as the 90SEL contour and various Lnight contours) would be reported, the Scoping Report then states that "*Additionally, the corresponding populations within the standard LAeq 16h……contours will also be reported*". That clearly suggests to me that use of the Lden metric was being accorded at least a degree of primacy over the use of other metrics. I am also conscious that HAL's letter to LBH of the 4 December 2012 notes under the heading of 'Significance Criteria (Noise)' that "…..*for residential receptors and the assessment of air noise, effects will be considered 'negative significant' where noise increases by either ≥ 3dB for residential receptors exposed to either ≥54 LAeq 16hr or ≥55 Lden*". To my mind those matters are a clear indication that, at the time, HAL placed appreciably greater significance on the use of the 55 Lden metric than is now the case in this appeal.

1031. Insofar as the use of 55Lden in the NAP is concerned, HAL notes that its use is a legal requirement. As such it seems to me of little significance in understanding HAL's views on the appropriate level for the onset of community annoyance - albeit it does add some further general credence to the use of 55Lden.

1032. What is perhaps more significant is that HAL should have proposed the use of 55Lden as the basis of its mitigation offer in the event that the third runway (R3) is to proceed. HAL suggests it is simply a matter of responding to the APF's statement that "*Any potential proposals for new nationally significant airport development projects following any Government decision on future recommendation(s) from the Airports Commission would need to consider tailored compensation schemes where appropriate*….." and points out that as the appeal proposals are of a different scale, magnitude and purpose to R3 a different approach should be applied to mitigation. However, whilst any R3 project may bring significant commercial benefits to the airport and thus be more able to 'afford' a higher level of mitigation, I see no difference between being exposed to a certain level of noise through the appeal proposal or through the R3 project. I am also conscious that whilst HAL has argued that any mitigation should be 'proportionate' [560-562], it has not argued that there are any specific financial constraints on the provision of mitigation or compensation here - nor has it put forward any viability evidence seeking to justify any lesser provision of mitigation in this case.

1033. Against this background it seems clear to me that HAL has, in other places and at other times, placed appreciable reliance on the use of 55Lden as the basis on which to propose mitigation. However, I note that both the ES Scoping Report (June 2011) and the letter of 4 December 2012 both preceded the publication of the APF -

[950] HAL/RTT/A/02 Appendix 7: London Borough of Hounslow [sic] Response

and would therefore have been put together at a time when Government was refreshing its policy on aviation noise. HAL has also explained that the potential reliance on 55Lden in respect of R3 is because HAL considers it would be a 'new nationally significant airport development project'. Consequently HAL may simply have been seeking to follow, or anticipate any changes in, Government policy - rather than itself considering that the threshold for the onset of significant community annoyance should be set at a lower level.

1034. Whatever the underlying explanation the mere fact that HAL has, on occasion, placed reliance on 55Lden as influencing the onset of community annoyance must lend some weight to the Authorities' view that 55den should be preferred to 57dB LAeq 16hr. However, as HAL may simply have been seeking to follow what it saw as, or anticipated would be, Government policy I do not see it should be accorded any significant weight.

Sensitivity to aircraft noise - summary

1035. I accept that a number of the matters raised by the Authorities raise questions over the appropriateness of continuing to use the 57dB LAeq 16hr contour as representing the onset of significant community annoyance. However, for the reasons above, I do not consider that any of those matters are of sufficient weight, even collectively, to mean that any considerations should be based on a different level to that which represents current Government policy as outlined in the APF. Accordingly, whilst recognising that people will be annoyed at levels below 57dB LAeq 16hr I nonetheless consider that it should continue to be treated as representing the onset of significant community annoyance.

1036. That has a number of implications. Firstly, as it is the point marking the onset of significant community annoyance it also seems the appropriate level to consider as LOAEL (in that it is likely to be the point at which the acoustic character of the area is affected to the extent that there is a perceived change in the quality of life) rather than the 54dB LAeq16hr or 55dB Lden suggested by the Authorities. Secondly, it reinforces the use of the LAeq 16hr metric as the primary metric to be used in the assessment of aircraft noise.

Significance of Effects

1037. For individuals and communities the significance of changes to the noise environment is influenced by various factors including not only changes in absolute noise levels but also by such matters as changes in the spectral characteristics of the noise and the duration of individual noise events. However, based on the evidence before the Inquiry it seems to me that the most significant factors, and thus the key influences on the need for and the type of mitigation, are the quantum of any change and the resultant absolute noise level.

1038. At low noise levels there may be no need to mitigate even a noticeable change in noise level if the resultant level is also low - and even at high noise levels there may still be no need for mitigation if the change in noise levels is small. That might occur in this case if, say, the number of over-flights increased by only a small amount. Even though there would be a change in absolute noise level, it may well pass unnoticed by the majority of people - particularly over a long period of time. In contrast, mitigation may well be needed if the resultant noise level was to be

high and the change was large enough to be noticeable. That might occur if, say, the number of flights was to be doubled (equivalent to around a 3dB increase).

1039. Indeed, the Authorities suggest that the relationship between the absolute noise level and the change experienced is intertwined such that the quantum of change needed for an effect to be seen as significant varies according to the absolute noise level being experienced.

1040. However, before I come on to the significance of absolute levels, change and their relationship I shall first address the way in which the term 'significant adverse effects' as used in the ES relates to HAL's proposed mitigation in the form of insulation and compensation.

1041. The ES treats effects on the residential population as 'significant adverse' if the increase in noise level is equal to or exceeds 3dB and LAeq 16hr is at least 57dB (see Table 6.26) - the Scoping Report noting that a 3dB change has been widely used in ESs as the point at which a change in the noise environment becomes significant as a change of this magnitude is most likely to alter a person's annoyance response.

1042. However, as may be seen from section 6.14, the ES does not consider that all of those significant adverse effects warrant mitigation in the form of insulation or compensation. Although the mitigation proposals outlined in the ES are subject to a considerable number of errata (eg even in the erratum notes to the ES (January 2014)[951] the summary of the proposed mitigation in Paragraph 6.14.8 and the figures in Table 6.31 do not tie up with Table 6.13), it is nonetheless apparent that the mitigation proposals outlined in the ES never set out to address all of what the ES itself labelled as 'significant adverse' effects.

1043. Even though the currently proposed mitigation package has evolved from that suggested in the ES (eg the mitigation now being proposed for schools has been altered such that eligibility is now dependent only on the school being within the 63dBLAeq contour rather than also requiring a 3dB increase) the Authorities note that there will be many people defined in the ES as suffering significant adverse effects who would receive no insulation or compensation.

1044. That is clearly true irrespective of the Authorities' view that the onset of significant community annoyance should in any event be set at a lower level than 57dB LAeq 16hr. It is therefore necessary to determine whether or not that is a reasonable approach; in that light I shall turn first to look at the matter of the absolute noise level and its effect on the need for mitigation.

Absolute level

1045. The PPG is clear that between LOAEL and SOAEL consideration needs to be given to mitigating and minimising the effects of noise. Insofar as the appropriate levels for LOAEL and SOAEL are concerned I am conscious that CAP1165 notes that "*In transitioning from NNI[Noise and Number Index] to Leq, it was logical and convenient to ……define three levels of Leq corresponding [to] low, moderate and high annoyance, which were subsequently defined as 57, 63 and 69dBA LAeq*." That approach seems to be reflected in the APF in that 57dBALAeq is taken as the

[951] CD/01/02A

onset of significant community annoyance; 63dBALAeq is the level at which the Government expects airport operators to offer acoustic insulation to noise sensitive buildings, and; 69dBALAeq is the level at which the APF expects airport operators to offer households assistance with the costs of moving. The SOUG note that the main parties agree that 63dB LAeq 16hr should be regarded as SOAEL; in light of the approach taken in the APF and CAP1165 I see no reason to disagree.

1046. As far as LOAEL is concerned, although the Authorities believe that LOAEL should be set at around 54dB LAeq 16hr, HAL considers it unnecessary to identify a level for LOAEL. However, as noted previously it is my view that the point marking the onset of significant community annoyance should also be regarded as LOAEL. In consequence I consider that 'consideration needs to be given to mitigating and minimising the effects of noise' between 57 and 63dB LAeq 16hr, albeit that the NPSE notes that the guiding principles of sustainable development should be taken into account. The NPSE also notes that taking all reasonable steps to mitigate and minimise adverse impacts on health and quality of life does not mean that such adverse effects cannot occur. The Authorities consider it important that the SoS asks the question as to whether HAL has taken all such reasonable steps in its proposals.

1047. In addition to their differences as to the value of LOAEL, the parties also differ as to whether or not insulation should be provided below SOAEL [952].

1048. In the Authorities' view, the guidance in the PPG is clear that insulation is appropriate at levels below SOAEL [367]. However, the PPG does not seem to me to be in any way prescriptive; what it says is that between LOAEL and SOAEL, noise "……*starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise)*" – before later referring to 'four broad types' of mitigation, only one of which involves insulation.

1049. HAL's contrasting view is that mitigation between LOAEL and SOAEL is provided in this case by a variety of largely operational measures including restrictions on aircraft noise emissions, NPRs, the '1000ft rule' etc[953]. HAL also argues that whilst adverse effects between LOAEL and SOAEL must be "*mitigate[d] and minimise[d]*"[954] the Examining Authority's Report and the Secretaries of States' decision on the Thames Tideway Tunnel (TTT) Development Consent Order application confirms that the aims of the NPSE are satisfied by the provision of acoustic insulation at the level of SOAEL (whatever that is determined to be in the particular case), and by other mitigation measures below that level.

1050. HAL considers that its proposed approach reflects the principles established in the TTT case [500] whereas the Authorities view the TTT development and its circumstances as completely different to those pertaining here - such that there are no general principles that can be transferred. In particular, the Authorities consider that there is nothing to the effect that insulation is limited to the level of SOAEL and above and nothing to say that noise effects below SOAEL need not, or cannot, be mitigated by insulation measures. [248–258]

[952] See INQ/56A and INQ56B (HAL and Authorities SOUG)
[953] INQ56/A HAL SOUG on Noise
[954] CD/02/03, para. 2.24.

1051. On that, I agree with the Authorities. Although the decision of the Secretaries of State notes[955] that off-site mitigation is part of the means available to an Applicant to manage noise impacts, my attention was not drawn to anything in the decision that convinces me that SOAEL should be treated as some kind of 'cut off' as far as insulation is concerned.

1052. That said, HAL also points out [565] that the Government's own policy in the APF anticipates that there will be circumstances where communities are exposed to significant increases in noise between 57dBA and 63dBA LAeq 16hr - but where no financial assistance towards acoustic insulation need be offered. Given that the APF's approach is to treat 57dB LAeq 16hr as the average onset of significant community annoyance yet it also outlines that, as a minimum, the Government expects airport operators to offer financial assistance towards acoustic insulation to residential properties which experience an increase in noise of 3dB or more which leaves them exposed to levels of noise of 63dB or more, that must be true. Consequently whilst I do not see SOAEL as a 'cut off' for acoustic insulation nor do I see any policy imperative for the provision of insulation below SOAEL.

1053. As far as UAEL is concerned, this is the point at which noise would be noticeable and very disruptive causing extensive and regular changes in behaviour. The parties both put this at 69dBLAeq 16hr in their SOUG and, as the point at which the APF requires the provision of relocation assistance, I see no reason to take a different view.

Change in noise level

1054. With regard to the significance of a change in noise level, the Authorities suggest that the ES reliance on a +3dB change in judging significance is out of kilter with current views and that there is no justification in the APF, or any other policy, for imposing a +3dB change criterion irrespective of noise level [313–315]. The Authorities instead suggest that a 3dB change should be adopted up to a guideline level of 63dB (SOAEL) and 1dB above that. For its part, HAL argues that use of a 3dB change is common practice, aligns with the APF and is robust in statistical terms such that a change in the noise environment is in fact referable back to the development. [549–551]

1055. In support of their case that a 1dB change should be used to denote significance above a guideline level of 63dB the Authorities have referred to the Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment (2014) as well as the PPG [320-324]. The Authorities have also referred to the "…up to date dose response of the EEA report…."[956] as showing that the change in percentage annoyed for any particular increase in noise becomes greater as the overall noise levels increase.

1056. The IEMA guidelines themselves were not put before the Inquiry. Although the Authorities suggest by reference to a figure extracted from the IEMA Guidelines[957] that noise changes at or above a 'guideline' have more impact than the same

[955] CD/01/35 para 70
[956] HIL/DF/P/2 Mr Fiumicelli PoE p57 Figure 5.2
[957] HIL/DF/P/2 Mr Fiumicelli PoE p59 Figure 5.3

changes below that guideline I am not convinced by either the figure or the oral evidence at the Inquiry that it is necessarily so.

1057. I accept that there is some evidence that the dose/response relationship is dependent on the absolute noise level - as illustrated by the changing gradient of the figure and borne out by the change in percentages of those highly annoyed between various noise levels as shown in the table from the EEA report. However, both the IEMA figure and the table from the EEA report seem to suggest that there is little difference in the dose/response relationship at the extremes. Whilst I accept that the IEMA figure does indicate a change in response around the guideline value, the figures given in the table suggest that the most significant disparity is when comparing figures around the guideline value to low levels of noise. Indeed, whilst the Authorities suggest that with reference to the EEA report that the ES "*…fails to recognise that the change in percentage annoyed for any particular increase in noise becomes greater as the overall noise levels increase*…" the table actually shows that the increase in percentage terms of those highly annoyed for a 3dBA increase in Lden is 8% between 57 Lden and 69Lden – falling to 6% at 72Lden.

1058. Although the Authorities also refer to the guidance in the PPG that, "in cases where existing noise sensitive locations already experience high noise levels, a development that is expected to cause even a small impact in the overall noise level may result in a significant adverse effect occurring even though little to no change in behaviour would be likely to occur", nothing was drawn to my attention that would help to quantify what might be meant by 'high noise levels' or a 'small impact'. Consequently it seems to me that whilst the PPG alerts the decision maker to the possibility that significant adverse effects may occur at high noise levels with little or no change in behaviour I do not see this as offering any significant support to the Authorities' position that the appropriate significance criterion above 63dB should be a change of 1dB.

1059. However, whilst I am not convinced by the Authorities' arguments that a 1dB change should be the criterion for assessing significance above 63dB LAeq 16hr, nor am I convinced by HAL's reliance on the statistical significance of a 3dB change. Given that 3dB represents a doubling of noise (which may be translated here as a doubling of the number of over-flights) it seems to me highly likely that increases of somewhat less than 3dB would be noticed, even over time. Although HAL argues [551] that if two different noise environments differ by 1dB on the LAeq16hr index there is a 20% probability that a social survey would show no change in annoyance between those environments that suggests to me that there is actually a high probability that such a survey would show some change in annoyance. As far as HAL's argument that 3dB as a criterion of significance is, in effect, in 'common usage' little in the way of support for that argument was put before the Inquiry.

1060. In summary I find that none of the arguments above should be accorded any significant weight; in contrast, as current Government policy, the approach in the APF should be accorded substantial weight. Although the Authorities maintain that there is no justification in the APF for a 3dB change irrespective of the noise level the fact is that the only change criterion specified in the APF in respect of noise insulation and compensation is 3dB – and then only when leaving a residential property exposed to levels of noise of 63dB or more.

1061. In that respect it is of note that the APF only seeks to apply the change criterion to residential properties; the Government expects operators to offer acoustic insulation to noise sensitive buildings such as schools and hospitals solely on the basis that they are exposed to levels of 63db LAeq 16hr or more. That is a clear distinction in the APF and confirms that the Government's expectation for residential properties is that acoustic insulation should be linked to both an appreciable change in the noise environment as well as an absolute noise level.

1062. Although nothing before the Inquiry fully explains the reasoning behind the differing approach to insulation in schools and residential properties, I note that the findings of the 'Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health' study (RANCH) reveal that high levels of chronic aircraft noise exposure impair children's reading and their ability to perform complex cognitive tasks. That seems to me indicative of a strong correlation between absolute levels of noise and learning - as opposed to the annoyance suffered by residents which appears to also depend on the ability to perceive a change. However, it is in any event the case that whilst HAL originally considered mitigation for schools by reference to a 3dB change, it no longer adopts that approach in its proffered mitigation - relying instead solely on the 63dB LAeq 16hr contour.

Significance of Effects – summary

1063. Against the background above I consider that 57, 63 and 69 dB LAeq 16hr should, in this case, be regarded respectively as LOAEL, SOAEL and UAEL. In terms of the significance of any change in noise levels, and notwithstanding the various arguments put forward by the Authorities as to the increasing sensitivity of residents at higher noise levels, I find no good reason to depart from the 3dB criterion identified in the ES - which I consider also gains considerable support from current Government policy in the APF.

1064. As far as the TTT decision is concerned, although I do not see it as establishing SOAEL as a 'cut off' point for acoustic insulation, nor do I see any policy imperative for the provision of insulation below that level - and I accept that noise mitigation and minimisation may be achieved in other ways below SOAEL. In consequence, the fact that not all residents identified in the ES as suffering significant adverse effects would necessarily receive acoustic insulation or compensation does not seem to me an unreasonable approach. In consequence, I do not equate the 'significant adverse effects' identified in the ES with those that the NPSE seeks to avoid.

Alternative metrics

1065. The Authorities have referred in their SOUG to a large number of alternative metrics. However, the Authorities' view as to what metrics might be appropriate in order to properly inform any necessary mitigation appears to have evolved considerably over the course of the appeal [567-571] and the basis of the mitigation proposed in the SOUG for residential properties is somewhat different to that initially put before the Inquiry. In any event there is little to be gained from exploring any metrics except where they influence the currently proposed mitigation. In that regard, although the Authorities' mitigation proposals at the Inquiry referenced the LAeq 8hr metric[958], the Authorities' SOUG addresses the

[958] HIL/DF/P/2 Fiumicelli PoE Paras 7.1.17 – 7.1.19

mitigation for residential properties by reference to the LAeq 16hr metric. In consequence I see no reason to address further the use of the LAeq 8hr metric in the context of residential properties.

1066. As far as schools are concerned, the Authorities have been consistent in the SOUG and the Inquiry in referring to the LAeq 8hr and LAeq 30 min - as well as some measure of individual noise events such as LAmax fast (the maximum A-weighted level with the sound meter set on FAST response).

1067. HAL raises a number of criticisms of the Authorities' reliance on the LAeq 8hr metric - pointing out amongst other matters that not only does the APF rely on the LAeq 16hr metric but also that the RANCH study is based on the LAeq 16hr metric [586]. HAL also criticises the Authorities' view that the LAeq 8 hr metric better reflects the school day - pointing out that the 8hr contours relied on by the Authorities only includes periods of over-flight and leaves out of account completely those days when a given school is not being over-flown at all.

1068. However, whilst HAL is technically correct on the latter point it does not seem to me to get to the heart of the matter. If, for example, there are two schools within the same noise contour but one is only over-flown for half the time, that school will experience twice as many flights during the period when it is over-flown. Whilst it would clearly benefit from respite at the times when it is not being over-flown, teaching may be severely disrupted at other times. In contrast, although the school being continuously over-flown would not benefit from respite, teaching may nevertheless be able to take place at all times without experiencing any severe disruption.

1069. That said, I agree with HAL [542] that there are considerable difficulties in employing an LAeq 8hr metric here given the lack of relevant dose-response relationships before the Inquiry. In consequence, and whilst I acknowledge the shortcomings of using averaging metrics with a time period which is poorly related to the activity affected, I consider that any mitigation should be by reference to the LAeq 16hr metric.

1070. Although the Authorities also refer to the use of LAmax fast and LAeq 30 min as alternative metrics I note that these were used in the ES in assessing the significance of effects on educational establishments[959], albeit that the Authorities consider that there were flaws in the approach adopted [349-351].

Mitigation

1071. Against the background above I now turn to assess whether the mitigation proffered by HAL can be regarded as 'appropriate'. As part of that assessment I set out in broad terms below what that mitigation offer is in terms of both residential properties and community facilities (the detail of the proposed mitigation is contained in the two Unilateral Undertakings (INQ62/A and INQ62/B)) before commenting as to its appropriateness.

1072. In overall terms, HAL maintains that as the proposal creates no additional capacity and only concerns a change to its existing operational procedures for relatively small periods of time, there is no obvious justification for doing anything in the way

[959] Eg CD/01/02A Para 6.7.43

of mitigation other than applying Government policy as laid out in the APF. In addition, HAL maintains that to offer mitigation to those affected by the ending of the Cranford Agreement that would be markedly different to that offered to other properties around the airport experiencing similar levels of noise would result in artificial boundaries of eligibility - and itself create inequity. HAL's mitigation offer in terms of insulation and compensation therefore largely follows what is set out in the APF at Paragraphs 3.36, 3.37 and 3.39 - albeit with a few exceptions.

Residential properties – noise levels between 57 and 63dBLAeq 16hrs (LOAEL-SOAEL)

1073. HAL notes in the SOUG that between LOAEL and SOAEL a full range of regulatory controls and noise minimisation measures have been put in place by the Secretary of State and the CAA in accordance with the legislation and guidance for regulated airports. These include measures such as restrictions on aircraft noise emissions, Noise Preferential Routes, Westerly Preference, the 1000ft Rule, Continuous Decent Approaches, Airport Noise Monitoring, Noise Limits and Fines and the Noise Action Plan. HAL also notes that with specific reference to the appeal proposals, runway alternation during easterlies will provide respite for communities during easterly operations as well as westerly operations.

1074. Notwithstanding the list put forward by HAL the Authorities suggest that in reality no mitigation at all is proposed by HAL between LOAEL and SOAEL which is scheme specific and which addresses the noise impacts arising from the development. In the Authorities' view that is contrary to the statutory development plan, contrary to the NPSE, contrary to the NPPF and contrary to the PPG.

1075. I accept the Authorities' point that none of the measures, even runway alternation, are 'scheme specific' - in the sense that they were designed specifically to mitigate the noise arising from the development. Indeed, it seems to me that all of these measures merely reflect the airport's normal operational practices. However, it is also the case that in their absence, local residents would experience higher levels of noise and thus they can, in PPG terms, be regarded as mitigating the noise impact by 'engineering' and even perhaps by 'layout' in the case of, say, the NPRs. Insofar as alternation is concerned, although it would not actually reduce the overall noise levels experienced, and indeed would at times concentrate that noise, it would also allow periods of respite. These are generally recognised as providing a benefit.

1076. HAL ALis not, however, proposing any form of acoustic insulation to properties between LOAEL and SOAEL. The Authorities clearly find that unpalatable and have suggested an extensive range of mitigations between LOAEL and SOAEL (indeed, some are also proposed at LOAEL) based on a sliding scale.

1077. Noise between LOAEL and SOAEL will, by definition, be noticeable and intrusive and there will be a change in the acoustic character of the area such that there will also be a perceived change in the quality of life. The ES also identifies that an appreciable number of residents will experience 'significant adverse effects' without any form of insulation or compensation being available to them. However, although the NPSE has a policy aim to avoid significant adverse effects, as explained above I do not consider that the significant adverse effects identified in the ES directly equate to the aim expressed in the NPSE. That said, the NPSE also notes that all reasonable steps should be taken to mitigate and minimise adverse impacts on

health and quality of life – albeit taking into account the guiding principles of sustainable development and recognising that such adverse effects may occur.

1078. With respect to the principles of sustainable development the Authorities point out that no viability information was put before the Inquiry and HAL has never sought to rely on viability as a reason to justify inadequate mitigation [307]. However, whilst HAL has not sought to argue 'affordability' as a criterion for insulation it has referred to 'proportionality'. That does not seem to me to be an unreasonable stance to take in a situation in which, although it seems likely that there would be some operational benefit – and thus commercial gain to the airport - in ending the Cranford Agreement, the Government's stated aim in ending that agreement was simply to redistribute noise more fairly around the airport.

1079. In that the social and environmental aspects of sustainability appear to have been the drivers behind the decision to end the Cranford Agreement I agree with HAL that "….it would be disproportionate and unreasonable to require HAL to make substantial changes to its overall approach to the offer of insulation for those affected by noise from the airport, as the price for obtaining the planning permission needed to implement full runway alternation on easterlies". In broad terms I also agree with HAL that, in those circumstances, there is no obvious justification for doing anything other than applying the Government's policy in the APF [562].

1080. The Government's expectations outlined in the APF do not expressly seek insulation for residential properties below 63dB LAeq 16hr and in light of all the matters above it is my view that the question as to 'whether HAL has taken all such reasonable steps in its proposals to mitigate and minimise adverse impacts on health and quality of life?' can be answered in the affirmative. In consequence, and despite the Authorities' concerns as to what it sees as the absence of any 'specific mitigation' below SOAEL, I see no conflict in this regard with the development plan, the PPG, the NPPF, the NPSE or the APF.

Residential properties – noise levels between 63 and 69dBLAeq 16hrs (SOAEL-UAEL)

1081. HAL's offer of noise insulation between SOAEL and UAEL applies to those residential properties which, after scheduled easterly alternation has commenced, would experience an increase in noise of 3dB or more which results in exposure to external aircraft noise levels of 63dBLAeq 16hrs or more ('Type B' properties). HAL's offer is to meet the full cost of any Noise Insulation Measures identified following a survey by a Noise Assessor – defined as an independent noise and ventilation systems assessor with not less than 10 years' relevant qualifications and expertise appointed by HAL at its own cost.

1082. The Authorities suggest that HAL's scheme specific mitigation does not begin at the agreed SOAEL level of 63dB LAeq, 16h but begins when a property is not only within the 63dB LAeq, 16h contour, but also experiences a 3dB change [365]. Whilst the way in which it is expressed by the Authorities could perhaps be more accurately characterised as "….when a property is not only within the 63dB LAeq, 16h contour, but *has also experienced at least a* 3dB change" (in other words a property currently at 60dB LAeq 16hr experiencing a 3dB increase would be included in the proposed insulation scheme) there is no doubting that the combined eligibility criteria mean that is that only a small area is covered.

1083. Although HAL suggests [483] that the number of properties qualifying for insulation would be around 350 (with 175 qualifying for relocation assistance) the Authorities suggest that, actually, only some 175 properties would qualify for the noise insulation scheme (with some 350 qualifying for relocation assistance). Inspection of figure B attached to the June 2015 technical note produced after the adjournment by HAL "Noise Contours and Insulation Schemes"[960], as well as the diagrams attached to the Unilateral Undertakings[961], suggests that it is the Authorities who are correct. Whilst the error is likely to have arisen from the incorrect tabulations in the ES, it does not actually alter the fact that the proposed insulation measures reflect the criteria outlined in the APF or that the undertakings are intended to secure those measures.

1084. Although the Authorities consider that properties experiencing a 1dB change resulting in a noise level above 63dBLAeq 16hr should be eligible for acoustic insulation and ventilation, for the reasons given earlier I do not see that as appropriate or necessary.

1085. In that HAL's offer is to meet the full cost of any Noise Insulation Measures identified following a survey by a Noise Assessor, HAL considers that its insulation offer exceeds the minimum expected in the APF which is only to 'offer financial assistance towards acoustic insulation'. The Authorities however maintain that the aim should be to meet the standards set out in BS8233:2014 in order to provide a satisfactory internal noise environment [366]. Whilst I acknowledge the Authorities' view that the reference to BS8233:2014 is not limited to new build homes, I note that BS8233 *"... does not provide guidance on assessing the effects of changes in the external noise levels to occupants of an existing building*" [574]. I am also conscious that any survey would not only be carried out by an independent noise and ventilation systems assessor but that wherever any surveys are carried out in order to establish the necessary works, the Unilateral Undertakings include a provision for dispute resolution.

1086. I am also conscious that, despite HAL's statement that its offer is to meet the full cost of any Noise Insulation Measures identified following a survey by a Noise Assessor, the Undertakings make clear that there are certain limitations on both the scope and cost of the noise insulation that may be provided. These include such matters as limiting the works to loft insulation, ceiling over-boarding (to a maximum cost of £2100 per habitable room), double or secondary glazing, insulation to external doors and such ventilation systems as may be reasonably required to ensure comfortable living conditions in habitable rooms. I do not, however, consider the proposed restrictions unreasonable.

1087. Against this background I consider that the proffered mitigation between SOAEL and UAEL is consistent with the APF and would be sufficient to avoid significant observed adverse effects.

Residential properties – noise levels exceeding 69dBLAeq 16hrs (UAEL)

1088. In terms of assistance with moving, HAL's offer to those properties which would experience external aircraft noise levels of 69dBLAeq 16hrs or more after scheduled

[960] INQ/49
[961] INQ62A and 62B

easterly alternation has commenced (referred to in the submitted Undertakings as 'Type A' properties) is a payment of up to £12,500 based on a lump sum of £5,000 plus 1.5% of the sale price up to a maximum of £7,500. The Authorities however criticise the relocation package pointing out amongst other matters that it has been unchanged since 2005 and offers no understanding of the actual costs of moving such as estate agency fees, surveying fees, legal fees, mortgage fees and the practical costs of moving such as fitting out a new property [373-375].

1089. HAL points out that the scheme is the same as that in the NAP (approved and adopted by the SoST in 2014) and that the average payment made under the existing scheme has been less than the cap [589-592]. However, the fact that the average payment has been less than the cap seems to me to offer little support to HAL's case that the offer is reasonable. (The average will be less than the cap even if only one property was to come in below the maximum figure). However, despite the Authorities suggesting that reference to the NAP being approved by the Secretary of State does not assist HAL - as the details of the financial assistance are not set out in the NAP - it seems to me unlikely that the SoS would have failed to take account of such a measure in approving the NAP.

1090. In any event, whilst I generally accept the Authorities' point that the proposed relocation package lacks any obvious linkage to the real costs of moving and is now some 10 years old I am also conscious that the Government's expectation in the APF is that airport operators should offer households assistance with the costs of moving – not that operators should bear the whole cost. In that light it seems to me that the relocation package can be considered appropriate.

1091. That said, it is clear from the documentation submitted after the adjournment (in response to my queries raised at the Inquiry[962]) that there will be properties newly coming within the 69dB LAeq, 16 hour contour that will be eligible for the relocation scheme but that will not be eligible for the proposed insulation scheme - which is in part reliant on a 3dB increase being experienced.

1092. PPG Paragraph notes that above UAEL noise would be noticeable and very disruptive causing extensive and regular changes in behaviour. Those properties coming within the 69dB LAeq, 16 hour contour will, by definition, suffer unacceptable adverse effects - and the PPG is clear that unacceptable adverse effects should be prevented.

1093. Notwithstanding that relocation assistance would be available to those properties there are likely to be households who, for perfectly valid reasons, do not want or are unable to relocate. In consequence it seems to me that an insulation scheme should also be made available to those households who would otherwise be entitled to relocation assistance. I am conscious that the PPG notes that "*At the highest extreme, noise exposure would cause extensive and sustained changes in behaviour without an ability to mitigate the effect of noise.*" However, whilst it may not be possible to fully mitigate the effects of noise the adverse effects could clearly be reduced. The implications otherwise are that the development should not proceed.

1094. Although INQ/49 suggests that those eligible for relocation assistance are eligible for noise insulation under either HAL's existing or Cranford-specific insulation

[962] INQ/49

schemes, inspection of Figure B attached to INQ/49 suggests that there are few, if any, residential properties that would be entitled to the Cranford-specific insulation scheme. Whilst HAL's existing residential 'Day Insulation Scheme Boundary' (based on 1994 69dB LA eq 18hr) would appear to encompass all the properties newly coming within the 'Relocation Assistance' 69dB LAeq, 16 hour contour, HAL's evidence to the Inquiry was that uptake of the existing scheme is low – a situation reflected in CAP1165. Whilst the existing scheme includes the provision of free secondary glazing (or half price double glazing) to external windows and doors, and loft insulation, HAL recognises that the current scheme's restriction to half-price double glazing may have limited the extent of take up [576-578].

1095. In consequence it is my view that the proposed mitigation above a noise level of 69dBLAeq 16hrs should only be regarded as appropriate if the Cranford-specific insulation scheme is made available to the affected households. This might be achieved by the imposition of an appropriate condition on any permission.

Residential properties – other matters

1096. HAL is also offering to fund Noise Vibration Measures, if recommended by a Noise Assessor, up to a maximum of £10,000 per property for those residential dwellings located in the Noise Vibration Assessment Area ('Type C' properties) that include a Noise Sensitive Structure (a lightweight structure physically attached to the property and used as a habitable room). Type C properties are those residential dwellings located in the 'Noise Vibration Assessment Area' defined by Figure 3 attached to INQ62/A - in essence covering the village of Longford. As a reaction to potential problems I consider this an appropriate response which goes beyond the minimum expected by the APF.

1097. As far as night time noise is concerned, the Authorities point out that a 3dB change criterion is applied in the ES to the night time noise threshold for significance (55dB Lnight) in order to assess whether or not an effect is significant. In the Authorities' view, whilst the threshold is appropriate, the addition of the change criterion is not supported by the WHO Night Noise Guidelines and is not required from an effect perspective - the Authorities arguing that the autonomous nature of the reaction means that it is inappropriate to require a qualifying change and that mitigation should depend solely on the absolute level [313].

1098. The ES identifies that some 500 dwellings would be newly exposed to noise levels in excess of 55dB Lnight[963]. However, it also identifies that, using the 3dB change criterion, no dwellings would experience significant adverse effects in terms of Lnight where Lnight is at least 45dB. The ES also points out that there are no scheduled departures during the night period at Heathrow. Whilst I note that some 3050 dwellings would see an increase in Lnight noise levels[964] I also note HAL's suggestion that a noise insulation threshold of 63 dB LAeq 16h may broadly achieve mitigation at 55 dB Lnight - albeit, as the Authorities note, no evidence has been submitted to prove this [368].

1099. In any event, and notwithstanding the Authorities' concerns, in reality there was little substantive evidence put before the Inquiry in support of the Authorities'

[963] CD/01/02A Table 6.17
[964] Ibid Para 6.8.50 and Table 6.18

position (or indeed HAL's position) on the matter of night noise - or the need for insulation. In particular, although the Authorities' SOUG refers to Lnight and LAmax as appropriate metrics in terms of sleep disturbance, they are not thereafter referenced in terms of mitigation and I am conscious that HAL has an existing residential noise mitigation scheme for night noise (said to be based on the 2004-5 B744RR 95th percentile 90dB(A) SEL footprint) that encompasses significant areas to the east and west of both runways[965].

1100. In light of the matters above, and particularly the fact that the Authorities have put forward little substantive evidence in support of the need for additional night noise insulation beyond that already available, I do not see a need to take this matter further.

Schools – noise levels exceeding 63dBLAeq 16hrs

1101. With regard to schools, HAL is offering insulation and ventilation to those schools falling within the 63dBLAeq 16hrs contour. In addition, whilst it is outside the 63dBLAeq 16hrs contour, HAL is offering insulation and ventilation measures to Cedars, a special school which would experience a large increase in noise. The insulation offer is mostly based on previously undertaken survey work up to an overall maximum figure of some £2.24m (known as the School Insulation Contribution). Those 'School Ventilation and/or Overheating Avoidance Measures' considered appropriate following surveys to be carried out by a School Insulation Assessor (utilising an independent noise and ventilation systems assessor) would also be funded - with no limit on the amount of provision. Littlebrook Nursery School in Longford will be offered similar mitigation measures to the other schools but is yet to have any form of survey.

1102. Wherever surveys are to be carried out to inform the works deemed necessary the Unilateral Undertakings include provision for dispute resolution. HAL notes that the internal noise environment in all the schools receiving insulation is expected to be better than at present, even with the implementation of full easterly alternation.

1103. Notwithstanding the proposals above the Authorities consider that the appropriate aim of any noise mitigation in schools should be to achieve, or at least minimise the breach of, the standards laid out in Building Bulletin 93 Acoustic design of schools: performance standards (BB93). In that respect the Authorities note that not only did the ES based its significance criteria on BB93 standards but that the early acoustic consultancy reports compared the internal noise environment post insulation with the then extant BB93. On that basis the Authorities suggest that the proper inference is that HAL accepts and acknowledges that the BB93 standards are relevant and should be applied.

1104. The Authorities' SOUG contains the detail of the mitigation it considers appropriate; in essence the Authorities consider that schools should be identified by reference to the LAeq 8hr metric with mitigation packages being developed on a case by case basis using criteria from BB93 - such that all harm caused by the development is mitigated and compensated.

[965] INQ/49 Figure A

1105. In addition, the Authorities note that there are a number of schools identified in the ES as suffering significant adverse effects but which will receive no compensation. In the Authorities' view, a further 8 schools in Hounslow should be considered for mitigation. They also raise particular concerns over Cranford Primary School estimating that it will experience noise levels from departing aircraft of up to around 94 dB LAmax fast and question whether the school can continue as an educational establishment and whether Heathrow should instead fully fund a new school in a different location.

1106. The Government's expectation, expressed through the APF, is that airport operators should offer acoustic insulation to noise-sensitive buildings, such as schools and hospitals, exposed to levels of noise of 63dB LAeq 16hr or more. The Government also expects that where acoustic insulation cannot provide an appropriate or cost effective solution, alternative mitigation measures should be offered. I consider that HAL's proposed mitigation meets those expectations. Indeed, in offering to provide acoustic insulation to one school falling outside of the 63dBA contour the offer exceeds Government's expectations. Although the Authorities believe that insulation should be offered to a further 8 schools, none of those schools fall within the 63dB LAeq 16hr contour.[966]

1107. As noted above, in terms of the insulation to be provided, that has been identified through surveying of the schools and the proposed works are detailed in the Unilateral Undertakings - except in respect of Littlebrook Nursery. Although the Authorities consider that the need for any works should be linked in some way to BB93 ('achieve or minimise the breach of'), I accept HAL's view that there is a limit to what can be achieved in existing buildings. As BB93 is designed to apply to new build schools, conversions and refurbishment work - not the installation of noise mitigation measures in existing schools - I also agree with HAL that seeking to achieve BB93 standards in this situation would be inappropriate.

1108. Whilst I acknowledge that is not the Authorities' case that BB93 standards should be achieved but should merely form a 'stretch target', it is unclear as to how that might work in practice - in that it would still require a judgement to be made as to what is appropriate. In any event, HAL points out that the existing noise levels in the affected schools are already in excess of those set out in BB93 - but that once the proposed insulation measures are implemented those internal noise levels are in fact expected to be less than they are today. I agree with HAL that to mitigate to levels considerably below those already experienced, and thus considerably beyond the impacts of the Appeal Proposals, would be to place an unreasonable requirement on HAL. Indeed I also accept that creating a better noise environment in those schools should be seen as a benefit of the proposals – albeit that there will of course also be a considerable number of unmitigated adverse effects in other schools.

1109. Insofar as the Authorities' reference to the LAeq 8hr metric is concerned I have already established why I do not consider it an appropriate metric to be used here.

1110. In respect of Cranford Primary School, and in particular the fear that it may not be able to continue operating as an educational establishment, the Authorities' position

[966] See INQ26 and accompanying drawings

appears to derive from the Committee Report to Hillingdon Council[967]. However, there was otherwise little in the way of cogent evidence drawn to my attention to support those concerns and I am conscious that the proposed mitigation measures are expected to deliver a 4dB improvement[968]. I am also conscious that HAL's expectation is that once the proposed insulation measures are implemented the internal noise levels will be less than today, and that overflying is in any event likely to occur for only around 12% of the time. In consequence, and whilst I acknowledge the Authorities' concerns, I do not consider the evidence before me sufficient to warrant any special provisions in regard to Cranford Primary School.

1111. Against this background I consider that HAL's proposed mitigation in regard to schools can be regarded as appropriate.

Community buildings and outdoor areas

1112. For community facilities, the Authorities consider that the five healthcare facilities which have been identified[969] as likely to be significantly adversely affected should be offered mitigation [402]. HAL, however, points out that all fall outside the 57dB contour [581] and in those circumstances I agree with HAL that insulation is not required.

1113. For outdoor community areas, and starting at areas within the 54dB LAeq, 16 hour contour (LOAEL), the Authorities believe that HAL should be required to reconsider their position and offer mitigation to address the effect on such areas, as a necessary part of mitigating the impacts of the scheme. The suggested mitigations are summarised within the Authorities' SOUG and include such matters as 'Winter Gardens' and community access via public transport to alternative, quieter facilities [403]. However, as HAL points out [818] there was little before the Inquiry to support the Authorities' suggestions and nothing to show how any such obligations would work or satisfy the requirements of the NPPF. I have not pursued them further.

Noise Barrier

1114. Although some people believe the barrier would be an 'eyesore', others consider it should be even higher than the proposed 5m. In its current form and position the forecast effect of the noise barrier is to reduce noise levels at receptors in Longford by approximately 3dBA, up to 5dBA, compared to what they would be without the barrier in place. The exact effect would of course be dependent on the location of the receptors and source of the noise but its main benefit would be in reducing ground noise. The ground noise assessment in the ES includes the noise barrier and thus the identified effects are residual.

1115. Although the Authorities considered that further work should be undertaken on the barrier's height and location to see if a more effective placement could be achieved, no such alternatives were before the Inquiry. For its part, HAL maintains that the proposed position and height of the barrier are optimal. I am in any event conscious from my site visit that there are a number of significant physical constraints on the location of any barrier.

[967] See also HIL/DF/P/2 paras 7.1.25 – 7.1.27
[968] INQ 62B p28 Schedule 2 Part B
[969] CD01/02 p95 para 6.8.60

1116. In all the circumstances I consider the noise barrier to be an appropriate part of the overall mitigation package. Whilst Green Belt matters and character and appearance are considered elsewhere, I note that the Authorities accept that if the Appeal Proposals were to go ahead, the Noise Barrier "*is the best solution to mitigate*" [598].

Living Conditions (Noise) – Conclusions

1117. The implementation of full easterly alternation will clearly affect the noise environment experienced by many residents living around the airport as well as the users of various institutions, particularly a number of the local schools. Whilst the effects do not appear materially different to those predicted at the time the decision was taken to end the Cranford Agreement it is nonetheless clear that, *in terms of the significance criteria outlined in the ES* (my emphasis), no residents will experience a significant beneficial effect whilst some 1700 dwellings (or around 4,450 people) will suffer significant adverse effects. Of those 1700 dwellings, only some 175 would qualify for insulation on the basis of the proposed mitigation scheme with some 350 eligible for home relocation assistance. In consequence some 1175 dwellings would experience what *are defined by the ES* as significant adverse effects without any offer of insulation or relocation assistance.

1118. It is nonetheless true to say that ES Table 6.12 shows that around 36,100 people will experience beneficial effects compared to only around 18,550 suffering adverse effects. Although almost 34,000 of those people experiencing beneficial effects would only see a reduction of between 1 and 2dB in the LAeq16hr levels – which in practice may or may not be noticeable – there would clearly be a rebalancing of the noise effects around the airport and for some people, the respite newly experienced on easterly operations would no doubt be a welcome benefit. In terms of overall effects, ES Table 6.16 states that the implementation of full easterly alternation would lead to around 100 fewer people being 'annoyed' and 50 fewer being 'highly annoyed'. Whilst I acknowledge the Authorities' scepticism of those figures, the Authorities in reality produced little in the way of a substantive challenge to their credibility. In any event, it seems to me that they do not go to the heart of the Inquiry which is whether or not the proposed mitigation is appropriate.

1119. The Authorities point out that compliance with the development plan is dependent on both the adequate assessment of any effects and the adequate mitigation of those effects. My finding in respect of the assessment of effects has some parallels with the issues identified by the Inspector in the T5 report[970] (November 2000) – in that I consider that the use of the LAeq 16hr metric and the reliance on 57dB LAeq 16hr as marking the onset of community annoyance both have considerable shortcomings. However, whilst I acknowledge the Authorities' concerns that averaging metrics fail to give adequate weight to the number of aircraft movements and to individual noise events, I consider that for the reasons above, LAeq 16hr remains the most appropriate metric to be used in assessment and mitigation terms.

1120. The Authorities have also argued that in a number of respects the APF fails to reflect recent evidence concerning the noise dose-response relationship such that compliance with the APF is not in fact sufficient to ensure compliance with the

[970] CD/04/03 p354

development plan. In support of that contention the Authorities point amongst other matters to the references in the ES to significance criteria based on the Lden metric as well as HAL's use of the Lden metric in other circumstances. However, whilst I accept that there must be question marks over the continued reliance on the 57dB LAeq 16hr as the basis for the onset of community annoyance, none of the matters relied on by the Authorities are of sufficient weight to convince me that any determination should be made other than in accordance with the APF.

1121. With respect to the proposed mitigation I am content that it accords with the minimum expectations of the Government as outlined in the APF. Indeed, on balance I am also content that in a number of respects it exceeds those minimum expectations. Although the Authorities have referred to the fact that HAL does not appear to have complied with the APF by undertaking a review of its compensation scheme I do not see the APF as necessarily requiring a formal review and consultation. To my mind HAL's approach has led to a sufficient review of its compensation schemes, albeit not formally designated as such.

1122. In light of the matters above it is my view that the proposed noise mitigation measures would, if supplemented by the provision of the 'Cranford –specific' insulation scheme to those would be eligible for relocation assistance (properly secured through a condition or obligation) be in accordance with the APF. The measures would be proportionate, particular to the development, adequate and appropriate and as such I consider that they would ensure compliance with the development plan, the NPPF, the NPSE and the PPG. They would also satisfy the requirements placed on the airport operator by the Government in its decision to end the Cranford Agreement.

LIVING CONDITIONS (AIR QUALITY)

Introduction

1123. The main parties agree in the AQ SOCG that the focus of the appeal in respect of air quality is solely on the annual mean concentrations of nitrogen dioxide (NO_2) during operation of the proposed development [612]. I have no reason to take a different view.

1124. The development would not itself result in an increase in the number of flights, nor would it result in any significant increase in emissions - albeit that overall emissions of NOx are modelled to increase by some 12.1 tonnes (or 0.2%) over the baseline in 2017 (and around 10.8 tonnes (again 0.2%) in 2020) as a result of changes to such matters as taxiing, take-off roll and hold patterns.[971] However the development would clearly produce changes in the spatial distribution of emissions around the airport. The main effects are anticipated to be the increased aircraft contribution to NOx in the Longford area to the northwest of the airport (that will in turn increase concentrations of NO_2) and a reduction in NO_2 concentrations in Stanwell at the western end of the southern runway.

1125. The LPA's Committee report[972] notes that the airport is located in the Air Quality Management Area (AQMA), said by the LPA to have been declared for exceedances

[971] CD/03/04 4.2.3
[972] CD/01/03 p91-95

of the annual mean NO_2 limit value. It also notes that "*The Longford area currently experiences levels of air quality close to or above the EU limit value. The highest levels are concentrated in the area closest to the airport boundary and in receptors closest to the main road network*" before going on to state that the impact of the development is "….*to cause exceedences [sic] of the air quality limit value in certain areas which were previously compliant, and, worsen the exceedences [sic] in areas currently over the limit value*."

1126. The conclusion of the air quality section of the LPA's Committee report notes that the operational changes brought about by the ending of the Cranford agreement would cause exceedances of the European Union limit value at receptors which were previously compliant and would worsen the concentrations in areas currently non-compliant. It also notes that "*The Air Quality Directive is clear that limit values should be "attained within a given period and not to be exceeded when attained" (Article 2). There are no mitigation measures identified to specifically address the exceedances at the relevant receptors*…..".

1127. Consequently, and despite HAL's view that "…the concern about impact on limit values on two areas of highway played no part in LBH's case until a very late stage in the preparation for this Inquiry…." [613] it seems clear to me that the impact on limit values had formed an important part of the LPA's concerns from an early stage.

1128. That said, as HAL notes, the Committee report and reason for refusal were concerned with the air quality assessment accompanying the application and informing the ES. That assessment evaluated what was then seen as the likely year of implementation (2015). However, in response to delays in implementation of the development and HAL's view that air quality is generally improving over time, HAL determined to submit a revised assessment based on what it now sees as the realistic implementation year of 2017. In light of that revised assessment HAL considers that the proposed development would not result in an unacceptable deterioration in air quality and in consequence no specific mitigation measures are required.

1129. HAL has nonetheless included in its Unilateral Undertaking a payment of £540k to be expended on measures to upgrade the existing bus fleet in Longford to Euro VI standards – which the Authorities are content would overcome their objections. HAL states that its offer "..*has been made unconditionally so that it does not depend upon the Inspector and/or Secretaries of State concluding that it satisfies the requirements of regulation 122 of the Community Infrastructure Levy Regulations 2010.*" Despite including the above payment in its UU, HAL maintains that the proposed mitigation is unnecessary.

1130. Irrespective of HAL's contentions that the mitigation is unnecessary, the fact that it has been included in the submitted UU means that I consider it necessary to establish whether or not it is compliant with CIL Regulation 122 - such that it may lawfully be taken into account.

1131. Although the development will clearly result in air quality improvements at certain locations around the airport, and this can obviously be viewed as a benefit of the proposals, HAL made it clear at the Inquiry that if it is considered that mitigation is necessary in Longford, HAL does not seek to argue that it should not be provided because of beneficial effects elsewhere [630].

The Policy and Guidance Framework applicable to air quality

1132. The LP policies of most relevance are Policy EM8 and Policy T4. Policy EM8 states, amongst other matters, that "*All development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and new sensitive receptors*". It also notes that "*All major development within the Air Quality Management Area (AQMA) should demonstrate air quality (no worsening of impacts) where appropriate….*" and that the Council seeks to "…..*reduce levels of pollutants referred to in the Government's National Air Quality Strategy and will have regard to the Mayor's Air Quality Strategy*." Policy T4 seeks to support the sustainable operation of Heathrow Airport within its present boundaries whilst improving environmental conditions such as noise and air quality for local communities.

1133. The UDP Policy of most relevance is Policy A2, concerning applications for proposals within the boundary of Heathrow Airport which are likely to have a significant adverse environmental impact and which seeks sufficient measures to mitigate for or redress the effects of the airport on the local environment.

1134. As far as the London Plan is concerned the most relevant policies are: LoP Policy 6.6 which notes that development proposals affecting aircraft operations or patterns of air traffic should give a high priority to sustainability and should take full account of environmental impacts (particularly noise and air quality), and; LoP Policy 7.14 concerning 'Improving Air Quality' which seeks amongst other matters for development proposals to be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality (such as areas designated as Air Quality Management Areas (AQMAs)).

1135. NPPF Paragraph 124 states that "*Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan*."

1136. PPG Paragraph: 005 (Reference ID: 32-005-20140306) states that "*Whether or not air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to generate air quality impact in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation…..".*

1137. PPG Paragraph: 008 (Reference ID: 32-008-20140306) "*Mitigation options where necessary will be locationally specific, will depend on the proposed development and should be proportionate to the likely impact*." It also notes that examples of mitigation include "*contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development*."

1138. The APF notes at Paragraph 3.47 that "*EU legislation sets legally binding air quality limits for the protection of human health. The Government is committed to achieving full compliance with European air quality standards*." The APF also

identifies the most important pollutants as oxides of nitrogen (NOx) and particulate matter (PM) before going on to say at 3.50 that "*PM limits are largely met, but challenges remain with nitrogen dioxide….*" and "*Air quality in local air quality management areas or where limit values are exceeded is particularly sensitive to new developments or transport pressures…..*".

1139. APF Paragraph 3.51 notes that "*Studies have shown that NOx emissions from aviation-related operations reduce rapidly beyond the immediate area around the runway. Road traffic remains the main problem with regard to NOx in the UK. Airports are large generators of surface transport journeys and as such share a responsibility to minimise the air quality impact of these operations. The Government expects them to take this responsibility seriously and to work with the Government, its agencies and local authorities to improve air quality*."

Assessment of effects

1140. The assessment of any air quality effects depends on assessing the differences between the situations where the development takes place and where it does not (referred to in HAL's evidence as 'With Project' and 'Baseline'). As the proposed development would not be able to take place until some time in the future, any such assessment also needs to take account of any changes over time to such matters as the aircraft fleet mix, movement and passenger numbers, the road vehicle fleet mix and traffic levels and the emissions from background sources - as well as factors such as dispersion and dilution data for pollutants and meteorological data.

1141. HAL explains that the modelling assessment that informed the ES and the planning application was undertaken in early 2013 and considered an assessment year of 2015 - at the time considered to be the first full calendar year of full runway alternation on easterly operations. However, as the first full year of alternation on easterlies is now likely to be 2017 and HAL considers that air quality is generally improving over time, HAL determined to carry out a new assessment[973]. That new assessment includes a full update of its air quality inventory and a new model evaluation study - and is the basis on which HAL now considers that the development would not lead to any new exceedances of the UK air quality objectives or the air quality limit values set by the EU - or any appreciable worsening of air quality at sensitive receptor locations.

1142. The relevant limit value for NO_2 set in Directive 2008/50/EC is 40µgm^{-3} and should have been achieved in all zones by 2010. The UK Government annual mean objective is numerically the same, at 40µgm^{-3}, but the requirements for assessment against the limit value and the objective differ in a number of respects[974]. It should have been achieved by 2005. The Authorities consider that in this case an assessment against limit values has to be carried out in relation to the roadside locations identified by Defra and reported to the European Commission.[975] HAL disagrees. However, before coming on to the matter of limit values I shall deal with the assessment against objectives.

[973] CD/03/04
[974] HIL/DL/A/1 Table 2 Appendix 2
[975] HIL/DL/P/1 Paragraph 5.22

1143. HAL notes that under the latest assessment the maximum predicted increase in annual mean NO_2 concentration at a residential receptor in 2017 in the defined study area is 1.5µgm^{-3} - resulting in exposures of 35.4-36.0 µgm^{-3} for the With Project case. These exposures are predicted at a number of residential receptors to the south of Longford and would be classified under the Environmental Protection UK (EPUK) guidance (2010) as a 'Negligible' impact with three receptors, representing two properties, as 'Slight Adverse'. Under the later EPUK (2015) guidance, 69 modelled receptors would be classified as 'Slight Adverse' and can be used to identify a 'Slight Adverse' area; 93 residential properties would fall within that area. No properties would exceed 40µgm^{-3} in either 2017 or 2020.[976]

1144. The Authorities however raised a number of concerns over the modelling including: the robustness of the traffic data; the meteorology, especially the year chosen as the basis for the assessment; and, the trends in concentrations.[977] In consequence, the Authorities maintain that HAL has not based its assessment on the appropriate worst case. Based on their view that concentrations in 2017 could be 9% higher than those assumed by HAL the Authorities suggest that three receptors in Longford, which would have been below the objective in the Baseline scenario, would experience concentrations above 40µgm^{-3} in 2017 in the With Project scenario. The Authorities explain that HAL's 'Air quality assessment of 480k movements and 2008/9 meteorology' has been used in coming to that view.

1145. Despite the parties' differing views as to the likely outcome of the development in terms of air quality, both main parties acknowledge in broad terms that there are two key areas underpinning their differences [417-419, 631]. These areas may perhaps be best characterised as the assumed number of ATMs and the change in background concentrations.

1146. Turning first to the ATM numbers, although the air quality SOCG records that the 'Air Quality Assessment of NO_2 Concentrations in 2017 and 2020 (Amec Foster Wheeler)' is based on 471,400 ATMs, it was subsequently confirmed that this should in fact be 470,400 ATMs. [432, 632] I agree with the Authorities' reasoning [432] that 470,400 ATMs cannot be seen as a worst case - or even, recognising HAL's concerns in that regard, a 'reasonable', 'likely' or 'realistic and likely' worst case.

1147. HAL argues that, even if 470,400 ATMs cannot be seen as a reasonable worst case, then 480,000 ATMs cannot be seen as a reasonable worst case either - in that for practical reasons 480,000 ATMs would never be scheduled. However, it seems clear to me that the development proposals would help in achieving operational reliability and I was given no reason to suggest that HAL would not seek to use that operational reliability to maximise ATMs. In any event I note that in 2011 the airport was only some 3,605 short of 480,000 ATMs. Although HAL argues that the extra 9,600 movements would only produce a difference in the results of some 0.1µgm^{-3}, that means that, in rounded terms, an extra 6000 movements (as occurred in 2011) is still likely to produce a measureable difference of 0.1µgm^{-3}.

1148. In consequence, and whilst I accept that HAL is unlikely to schedule 480,000 movements, it seems to me reasonable to consider the results of the air quality

[976] HAL/CW/P/01 section 6.3
[977] HIL/DL/P/1 Paragraphs 5.4-5.14

assessment as being marginally understated on the basis of the assumed number of ATMs [634-636].

1149. More significant is the matter of the change in background concentrations. Although HAL believes that there will be something like an 8% downward trend in background concentrations between 2013 and 2017, the Authorities consider that unrealistic. The Authorities' statistical analysis of the trends at the monitoring sites around Heathrow suggests that of the 11 sites, 7 have no significant trend, 3 have a downward trend and 1 has an upward trend. Indeed, the Authorities consider that there is no credible evidence to support a view that trends have been decreasing. In particular, the Authorities disagree with HAL's view that the current monitoring results at the Green Gates continuous monitoring site in Longford show a downward trend consistent with the modelled results.[978]

1150. For its part, HAL considers the Authorities' criticisms are not well founded pointing to the fact that at the Green Gates monitoring station annual mean concentrations between 2011 and 2014 were consistently lower than between 2006 and 2009 - the later years on average being something like 4μgm^{-3} lower. HAL also considers that the statistical significance of the Authorities' considerations is compromised [639]. HAL suggests that in any event, even if the modelling was based on 480,000 ATMs, if the adjustment for the trends in background concentrations was only 8%, rather than the 9% suggested by the Authorities, no exceedances would result at the Longford receptors [631].

1151. I have some reservations over HAL's consideration of the results at the Green Gates monitoring station and in particular the references to 2010 as being an 'outlier' and to the claim that the works being undertaken on T5 are likely to account for the levels between 2002 and 2004. Whilst I accept HAL's observations as to the comparisons between 2006/09 and 2011/14, I have not been given any good reason to exclude 2010 and the results in 2002/4 seem to me more likely to encourage the impression of a downward trend rather than anything else. That said I accept HAL's observation that the results of the Authorities' calculations in terms of exceedances at the Longford receptors are very sensitive to small changes in the assumed trends.

1152. HAL also argues that it is unrealistic to assume that emissions and ground level concentrations will not reduce at all between 2013 and 2017, as has been suggested [641]. Indeed, HAL suggests that it would be surprising if I and the SoS were to start from the assumption that improvements in emissions standards, understanding and technology would yield no benefits compared to the past – particularly in light of the recent Supreme Court judgement in *R (on the application of ClientEarth) v SofS [2015] UKSC 28* whereby, as HAL notes, the Government has been required to take action on air quality and it is reasonable to assume that any plan to improve air quality will be well-considered, evidence based and robust [638].

1153. However, particularly in the context of this case, that argument does not seem to me to be entirely reasonable. Firstly, despite what have clearly already been considerable efforts to reduce emissions, as HAL itself acknowledges, clear upward

[978] HIL/DL/P/1 Paragraph 5.12

trends can be seen at some receptors dominated by the M4[979]. In that respect the extract from the report published by Defra in 2011 into 'Air Quality Plans for the achievement of EU air quality limit values for nitrogen dioxide (NO_2) in the UK'[980] notes that even the introduction of vehicles meeting stringent Euro standards has led to trends over the last five years that are, at best, weakly downwards. Secondly, even assuming that it is now possible to make significant strides in reducing emissions there is nothing to suggest that any such actions would produce meaningful results by 2017.

1154. Taking account of all the matters above what is clear is that the development would produce increases in the levels of NO_2 in Longford. However it is less clear as to what those levels will be. Whilst the resultant levels are likely to be higher than has been suggested by HAL I am not convinced they would be as high as has been suggested by the Authorities. In particular, as the three exceedances identified by the Authorities on the basis of its preferred assumptions were 40.0, 40.2 and 40.3μgm^{-3}, I am not convinced that there would be any breaches of the air quality objective.

1155. Turning to the matter of limit values, HAL seeks to distinguish responsibility for achievement of limit values from responsibility for the achievement of objectives. However, whilst I accept that the former will generally be achieved more through strategic means it seems to me that it would be wrong to ignore the impact of the proposed development on limit values. I am also conscious that the Authorities point out that compliance with limit values is a legal requirement with the competent authority in the UK being the Secretary of State for the Environment, Food and Rural Affairs and the Government's failure to secure compliance with NO_2 levels in certain zones under Directive 2008/50/EC has recently been the subject of legal proceedings in the case of *R (on the application of ClientEarth) v SofS [2015] UKSC 28.* The Authorities also note that the Government has reminded local authorities that they could be required to pay all or part of any infraction fine.[981] In consequence it seems to me that limit values are a consideration that should be taken into account in the context of this Inquiry.

1156. HAL has, in response to a request from the Authorities, undertaken an assessment against the European Union Limit Value – the Authorities considering that the development would make it more difficult for the Government to meet the EU limit value at locations along the A4 and A3044. The results show that the NO_2 increments range from less than 0.01μgm^{-3} to around 2.2μgm^{-3} along the A4 and between approximately -2.2μgm^{-3}(beneficial) and 1.7μgm^{-3} (adverse) along the A3044. Although the Authorities characterise a number of the effects as 'substantial adverse' given the size of the increment and the base concentrations devised from the Pollution Climate Mapping (PCM) modelling, HAL points out that there are no specific receptors reported by Defra to the EU along the A3044 and of the 2 locations reported by Defra to the EU along the A4, the respective increments are less than 0.01μgm^{-3} and 0.16μgm^{-3}.[982]

[979] HAL/CW/RP/01 Paragraph 2.4.5
[980] HIL/DL/A/1 A14
[981] HIL/DL/P/1 paras 3.2-3.6
[982] HAL/CW/RP/01 Section 3.1

1157. In addition to considering that there is no policy basis for using the Limit Value to justify specific mitigation, HAL also criticises the methodology employed and points to the small and localised scale of the increments. HAL's conclusion is that even if the assessment were considered to be of practical utility for decision-making it only identifies small and localised increases, with neutral and beneficial effects at other locations, such that the overall effect would not be to appreciably worsen air quality on these links, or to make it more difficult for the Government to meet the Limit Value [644].

1158. Notwithstanding HAL's concerns above, it seems to me that there is little doubt that the development would lead to a worsening of some already significant exceedances of the EU limit value – albeit that at the locations reported by Defra, the further exceedances would be of a small scale.

Mitigation

1159. Taking account of the matters identified above it seems clear to me that there will be a worsening of the air quality at sensitive receptors within an AQMA and that around 93 residential properties would suffer what, in modern parlance, should be regarded as at least 'slight adverse' effects. I am not, however, convinced that there would actually be any breaches of the air quality objective. In addition there would be a worsening of some already significant exceedances of the EU limit value along the road network.

1160. LP Policy EM8 is, as noted above, clear that all development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and new sensitive receptors. In light of the matters above I consider the development would, absent any mitigation, be in clear breach of that policy.

1161. I am also conscious that LoP Policy 7.14 seeks for development proposals to be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality (such as areas designated as Air Quality Management Areas (AQMAs)). HAL, however, argues [618, 619] that, having regard to the nature of the development and the source of the pollutants, there is a recognition in the Mayor of London's SPG[983] (Note: referred to in HAL's closings as an SPD) and Technical Report (The Air Quality Neutral Report)[984] that it is not appropriate to apply the principle of air quality neutrality here.

1162. In support of that contention, HAL notes that the 'Air Quality Neutral' section of the SPG dealing with transport emissions (4.3.19) refers to the Air Quality Neutral Report that at Paragraph 3.36 states, amongst other matters, that "*In the case of aircraft, it would be possible to establish a benchmark for operations with the LTO [landing and take-off] cycle, but the responsibility for mitigation/offsetting could not reasonably lie with the airport operator, as they have very limited control over what aircraft are used by the airlines. The only mechanism for allocating responsibility to the individual airlines would be via the landing charges, but this system is strictly controlled by the Civil Aviation Authority, and it is highly unlikely that it could be adapted to support an Air Quality Neutral policy*."

[983] CD03/03
[984] CD/03/05

1163. Notwithstanding HAL's contentions, I note that the Air Quality Neutral Report also states at 2.11 that "*Two principal routes for applying an air quality neutral policy have been considered: A comparison of emissions from the proposed development with those associated with the previous use of the site; or the establishment of benchmarks for acceptable emissions from a particular development*."

1164. Although the report then goes on to determine that the most feasible approach would be to establish a benchmark for different land-use classes, expressed, for example, as kg pollutant/m2/annum or vehicle trips/m2 - such that in order to achieve compliance with the air quality neutral policy, the development would need to demonstrate that the building and transport emissions achieved the benchmark - I do not see that as ruling out other approaches. Nor, as a technical report commissioned to "*provide support to the development of the Mayor's policy related to 'air quality neutral' developments*"[985] underpinning an SPG, do I see it as in any way undermining the basic aims of LoP Policy 7.14 for development proposals to be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality.

1165. I am in any event conscious that despite the reservations expressed in the Air Quality Neutral Report at Paragraph 3.36 over where responsibility for mitigation/offsetting might reasonably lie, Heathrow itself is clear that it was one of the first airports to incentivise the introduction of newer, lower emission aircraft through its landing charges and is proposing a doubling of the NOx based element of the landing charge.

1166. In consequence of all these matters I do not accept HAL's contention that it would be inappropriate to apply the principle of air quality neutrality and I consider the development, absent mitigation, would also be contrary to LoP Policy 7.14.

1167. The London Borough of Hillingdon, Air Quality Action Plan: Progress Report 2014[986] notes that the air quality objective for NO_2 is 40µg/m^3 measured as an annual mean. It records that the objective was to be achieved by 31 December 2005 whereas the summary of compliance with Air Quality Strategy (2.2.6) notes that "*Concentrations within the AQMA still exceed the 40µgm^{-3} objective for NO_2 and the AQMA should remain*." Section 9.4 later notes that the "…..*area around Heathrow and the major road network is in breach now and predicted to be so for the foreseeable future. The current situation must be solved, mechanisms put in place now to ensure compliance in the area is reached and maintained as soon as possible, in line with European legislation.*" I also note that the Heathrow/Hillingdon Hotspot Project (Action Plan Measure 2.12) identifies that the work includes the provision of information and an evidence base for the actions and measures needed to ensure compliance with EU limit values in the Heathrow area. (p51) Having regard to NPPF Paragraph 124, that adds further to my view that specific mitigation should be provided.

1168. Although HAL considers that there is no policy basis for using the Limit Value to justify specific mitigation, it seems to me that both the PPG and the APF are very clear in recognising that air quality in local air quality management areas, or where

[985] CD/03/05 para 1.1
[986] CD/03/13

limit values are exceeded, is particularly sensitive to new developments adding to my overall view that specific mitigation is required here [1136, 1138].

1169. The Authorities have also drawn my attention to the London Councils' guidance which sets bands at which certain recommendations should apply, for example Air Pollution Exposure Criteria (APEC) classifications. However, they do not add materially to my findings above and I have not pursued them further [415].

1170. Despite arguing that mitigation is not, in fact necessary, as noted earlier HAL has committed to pay the LPA a sum of £540k by way of an of an Air Quality Contribution to be used towards "*measures to improve vehicles used in the bus fleets passing through Longford with the objective of reducing NOx emissions from such vehicles to achieve Euro VI or better emission standards*" [646]. HAL considers that the proposed measures are, based on the Authorities' case, suitable and proportionate to the scale of the effect and satisfactory to make the effects acceptable [649]. The Authorities take no issue with the proposed mitigation considering it sufficient to mitigate the adverse effects. I see no reason to disagree.

Living Conditions (Air Quality) – Conclusions

1171. Having regard to all the matters above, although I am not convinced that the development would lead to breaches of the air quality objective as claimed by the Authorities, I am nevertheless clear that mitigation of the air quality effects of the proposed development is necessary and justified. In light of the evidence before me I consider that the proposed mitigation, which would be provided irrespective of it being found to be compliant with the CIL regulations, would in any event be reasonable, proportionate and sufficient to adequately mitigate the adverse effects of the development. In consequence I see no conflict with the development plan in terms of air quality matters.

OTHER CONSIDERATIONS

1172. HAL has referred to a number of other considerations that it considers should be taken into account in establishing whether or not very special circumstances might exist in this case [789,790]. These include: that the barrier is necessary to mitigate noise impacts arising from the Appeal Proposals and that there is no alternative location (or means) by which this can be effectively achieved; that it is a necessary consequence of the implementation of Government policy, which itself delivers the public interest benefits that led the Government to decide to end the Cranford Agreement; that the structure replaces an existing structure which has a comparable impact on the Green Belt; and, that the Green Belt boundary in this case is quite clearly outdated and "illogical".

1173. As noted above [1114] the forecast effect of the noise barrier is to reduce noise levels at receptors in Longford by approximately 3dBA, up to 5dBA, compared to what they would be without the barrier in place. In terms of mitigating ground noise, no other serious options were put before the Inquiry either in regard to the barrier or its position. In that regard I accept that it is a necessary part of the development which itself is intended to implement Government policy to redistribute noise more fairly around the airport. The public interest benefits that would result from the development (provided that appropriate mitigation was to be put in place) should carry very substantial weight in favour of the development.

1174. Insofar as the rather smaller fence would be replaced by the proposed noise barrier I consider that this should carry some limited weight in favour of the development. However, whilst HAL argues that the Green Belt boundary in this case is outdated and illogical, a s78 appeal is clearly not the place to debate the appropriateness of a Green Belt boundary and I give HAL's views in that regard no material weight.

1175. Although not specifically mentioned by HAL in closing it was evident at the Inquiry that in addition to the benefits of the development in terms of noise redistribution there would also be some benefits in terms of operational robustness. Given Heathrow's national importance, increased operational resilience must carry at least some limited weight in favour of the development. Similarly, on the assumption that any air quality adverse effects are adequately mitigated, the beneficial effects experienced elsewhere (eg Stanwell) must also carry some modest weight in favour of the development.

WHETHER THE HARM BY REASON OF INAPPROPRIATENESS, AND ANY OTHER HARM, WOULD BE CLEARLY OUTWEIGHED BY OTHER CONSIDERATIONS

1176. That part of the noise barrier in the Green Belt would constitute inappropriate development. That in itself is, by definition, harmful to the Green Belt. I have also found that the proposed barrier would materially and adversely affect the openness of the Green Belt. NPPF Paragraph 88 is clear that any harm to the Green Belt should attract substantial weight. In addition I have found that there would be some limited harm to the general character and appearance of the area.

1177. Weighed against those harms are the other considerations outlined above; the substantial public interest benefits in terms of noise that would result from the development (providing that appropriate mitigation was to be secured); some limited benefits in terms of operational resilience; and, some modest benefits in terms of air quality (again providing that appropriate mitigation is secured). The removal of the existing fence should also be seen as a small benefit.

1178. In my view these other considerations are sufficient to clearly outweigh the harm to the Green Belt and the other harm. Consequently the very special circumstances necessary to justify the development do exist.

CONDITIONS

1179. The LPA has suggested a number of conditions that it considers would be appropriate in the event the SoS were minded to allow the appeal (INQ/54). Although HAL objects to a number of the suggested conditions it agrees that some would be appropriate. I have nevertheless considered all of the suggested conditions in the light of the NPPF, the planning practice guidance and the discussions at the Inquiry. Those that I consider would be necessary in the event that the SoS determines that the appeal should be allowed are listed in Annex D, albeit that in certain cases, whilst retaining the sense of the condition, I have altered the suggested wording in the interests of clarity. For ease of reference I refer below to the numbering given in Annex D.

1180. In the interests of proper planning, conditions limiting the life of the permission and listing the application plans would be required. (1, 2) Notwithstanding HAL's contention that a tailpiece to the plans condition would allow the flexibility to accommodate minor changes to the physical works and would be compliant with the

principles established in *R (Midcounties Cooperative Ltd) v Wyre Forest DC* [2009] EWHC 964 (Admin) [801] it seems to me that an appropriate degree of flexibility is available through other means and the suggested tailpiece is unnecessary.

1181. In the interests of the character and appearance of the area, the living conditions of local residents, the ecology of the area and the safety of aircraft with regard to bird strikes it is important to ensure that the noise barrier is of an appropriate appearance and construction as well as ensuring that any landscaping is capable of fulfilling a range of roles; to that end conditions 3 and 4 are necessary and reasonable.

1182. I note that heritage assets of archaeological interest are expected to survive on the site and in consequence I consider that a condition requiring a written scheme of investigation, and implementation of the development in accordance with that scheme, would be both reasonable and necessary. (5)

1183. Conditions requiring the submission and implementation of both a Construction Environmental Management Plan and a Construction Logistics Plan would be necessary and reasonable in the interests of the environment and the living conditions of local residents (6, 7). To manage flooding risk and to ensure appropriate integration with the existing sustainable drainage a condition requiring the submission of drainage details for approval would meet the NPPF tests.

1184. I see no need for the LPA's suggested condition entitled 'Commencement Prevention'. In my view it would duplicate other controls and as such is unnecessary.

1185. The Authorities have suggested three further conditions which they consider necessary, all of which are concerned with the impacts of further operational changes which the Authorities consider will be facilitated by the proposed works. These include the introduction of 'full' mixed mode, the ending of westerly preference and the introduction of additional night flights. In the Authorities' view, and notwithstanding the existence of the airspace change process (if and to the extent that it applies), it is open to the Secretaries of State to properly impose conditions to prevent the introduction of these operational changes - and that the conditions suggested by the Authorities would meet the appropriate NPPF tests [443 – 446].

1186. HAL maintains amongst other matters that such conditions are not necessary [806]; the Authorities' approach is unsupported by case law [807]; the imposition of such conditions would make the LPA the decision maker on matters over which it has limited experience, and in relation to which Parliament has decided to give jurisdiction to the CAA and SoST under a quite separate statutory regime [808]; and, in light of the APF, it would be inappropriate for decisions on noise and operational controls at Heathrow to be taken by the LPA rather than the Government [808].

1187. I have already noted that insofar as more night flights are concerned, HAL considers that there would need to be an application (accompanied by an environmental assessment) on which there would need to be a decision by the SoST [937 iro 'Early Morning Smoothing']. For westerly preference, HAL points out any such change would require an application to the CAA which would need to consider the potential for significant environmental effects to occur and that final approval

would need to come from the SoST [940]. Any application for mixed mode would need to be accompanied by an environmental assessment and consultation and any decision would have to be taken by the SoST [946]. It is therefore clear that HAL believes that the Government would be the decision maker on matters of 'full' mixed mode, the ending of westerly preference and the introduction of additional night flights.

1188. HAL's views are supported by the September 2010 statement of the Minister of State, Department for Transport (Mrs Theresa Villiers). In stating that "*I can confirm that we remain firmly committed to retaining runway alternation and will not approve the introduction of mixed mode operations at Heathrow. This Government believe that any potential benefits mixed mode might bring to the airport are outweighed by the negative impact such operations would have on local communities. Operating procedures known as westerly preference, early morning runway alternation and night-time rotation of easterly/westerly preference have also all brought noise mitigation benefits to local communities. This Government do not intend to revisit previous decisions taken in relation to these procedures and they will continue to operate as they do now*" it is clear that Government considers it has control over such matters.

1189. It is also clear from Paragraph 3.10 of the APF that the Government considers it should take decisions balancing noise controls and economic benefits reconciling local and national strategic interests.

1190. In light of those matters, and irrespective of HAL's various other points, I do not see it as necessary, or indeed reasonable, to impose the three further conditions suggested by the Authorities concerning 'full' mixed mode, the ending of westerly preference and the introduction of additional night flights.

1191. However, if matters have changed consequent on the Judicial Review brought by Martin Barraud [914] such that the SoS disagree with the view expressed above and consider that such conditions should be imposed, it is my view that the riders suggested by the LPA are unnecessary and should not be imposed.

1192. However, for the reasons above [1093-1095] I do consider it necessary to impose an additional condition to ensure that the 'Cranford-specific' insulation scheme is made available to those households who would otherwise only be entitled to relocation assistance. The suggested condition (9) has not been canvassed with the parties and in the event that the SoS agree with my reasoning on the need to extend availability of the Cranford-specific' insulation scheme it would be necessary to seek the parties' views as to the appropriateness of the suggested condition – or indeed, whether the same ends could be better achieved through variations to the submitted obligations.

OBLIGATIONS

1193. HAL submitted two Unilateral Undertakings dated 22 July 2015. The first, from HAL and the Deutsche Trustee Company Limited to the London Borough of Hillingdon[987], has been made pursuant to s106 of the Town and Country Planning Act 1990. The second, which is between HAL and the Deutsche Trustee Company Limited and the

[987] INQ/62A

Mayor and Burgesses of the London Borough of Hounslow and the London Borough Hillingdon[988], has been made pursuant to s106 of the Town and Country Planning Act 1990 and Section 16 of the Greater London Council (General Powers) Act 1974.

1194. No substantive objections have been raised to the mechanism of having two undertakings – a structure deemed necessary in that the 'Land' as defined in the undertakings falls within the administrative area of Hillingdon and as such the obligations in the second deed cannot be offered to the London Borough of Hounslow as a planning obligation pursuant to s106 - but are instead offered to Hounslow as undertakings pursuant to Section 16 of the Greater London Council (General Powers) Act 1974.

1195. The first undertaking, to LBH, is intended to secure the relocation and insulation offers to 'Type A' and 'Type B' properties respectively as well as the vibration offer to 'Type C' properties. It is also intended to secure the school insulation/ventilation offer to the Littlebrook Nursery School. Consequent on discussions between the main parties prior to the opening of the Inquiry, a payment of some £540k to be expended on measures to upgrade the existing bus fleet operating in Longford (such that its emissions would comply with Euro VI standards) has also been included. This sits alongside a commitment preventing Scheduled Easterly Alternations from being carried out otherwise than in accordance with the commitments contained in the Air Quality Action Plan and the Air Quality Blueprint.

1196. The second undertaking, to LBH and LBHo, also deals with relocation and insulation assistance to residential properties and provides for school insulation/ventilation measures at nine eligible schools. There is no provision for properties suffering from noise-induced vibration, all such eligible properties being within LBH, nor is there any provision targeted specifically at air quality mitigation.

1197. The Authorities raised a number of criticisms of the draft undertakings (INQ/60). However, these criticisms go to matters of principle (which I have largely dealt with elsewhere in my conclusions), have resulted in an amendment to the drafting of the undertakings or, in my view, have mostly been appropriately and satisfactorily addressed by HAL's responses for the reasoning it provides.

1198. There are a small number of matters on which I consider there is a need to comment further.

1199. Firstly, in respect of the Authorities' view that there is a need to include an obligation to pay a monitoring sum, I am conscious that there is no direct reference to this practice in the NPPF or PPG. Having regard to the decision in *Oxfordshire County Council v SSCLG [2015] EWHC 186* it therefore seems necessary to me to reach a judgement as to whether funding to meet these costs would satisfy the three tests in Regulation 122 of the Community Infrastructure Levy Regulations 2010 (CIL Regulations) - in particular whether such costs should be seen as falling within the scope of the reasonable everyday functions of the LPA or whether they should be treated as something falling outside those functions.

1200. The Authorities have put forward little in the way of cogent evidence to show why any monitoring contribution is required. I am also conscious that: each undertaking

[988] INQ/62B

contains clauses whereby each Council can request that HAL provides them with evidence to demonstrate compliance with the proposed covenants, undertakings and obligations; that HAL would covenant with LBHo to reimburse in full the reasonable and proper costs and expenses incurred in installing or procuring the installation of the School Insulation Measures and the agreed School Ventilation Measures; and, that the "…*sole purposes for which the Council shall be entitled to use any part of the Air Quality Contribution are to transfer the Air Quality Contribution (in one or more instalments) to Transport for London on terms that it will be applied by Transport for London towards implementation of one or more of the Air Quality Mitigation Measures to improve vehicles used in the bus fleets passing through Longford*……..".

1201. In those circumstances it seems to me that the Council would not be required to do anything that, notwithstanding the wide ranging provisions of the undertakings, would fall outside its reasonable everyday functions. As such I do not consider in this case that a specific monitoring contribution can be deemed necessary.

1202. Secondly, the Authorities consider that mitigation should be proposed in respect of public outdoor amenity spaces that are predicted to be exposed to aviation noise above 54dB LAeq 16hr and are likely to be used for noise sensitive activities[989] [403]. However, as HAL notes [608], there was little cogent evidence from the Authorities to explain why such mitigation was necessary. Although the Authorities did produce a contour plan showing public open spaces (INQ/45) and suggested that, in this regard, HAL should establish and contribute an agreed annual sum to be controlled by the Airport Consultative Committee, nothing tangible was put before the Inquiry. In consequence I consider that there is no evidence to demonstrate that any such provision would meet the CIL tests.

1203. The undertakings are both clearly material considerations to be taken into account in any determination. Against the background above I consider that they are both compliant with the CIL Regulations and that all the provisions therein, including the Air Quality Contribution, can lawfully be taken into account in any determination.

OVERALL CONCLUSIONS

1204. In light of the Government's earlier decision to end the Cranford Agreement, the issue at the heart of this appeal is whether or not the proposed mitigation and compensation measures for those likely to be affected by the proposals can be regarded as 'appropriate'. That evaluation is underpinned by the ES - which the Authorities consider inadequate. However, it is my view that, despite its shortcomings, the submitted ES is compliant with the EIA Regulations and provides a sufficient basis for the evaluation and proper consideration of the identified main issues. [949-951]

1205. As far as the main issues are concerned, I have found that where the proposed acoustic barrier would be located in the Green Belt it should be deemed inappropriate development and it should not be approved except in very special circumstances [965]. There would also be some harm to the openness of the Green Belt [967] and the character and appearance of the area [970].

[989] As per INQ/46 p6

1206. In respect of the effect of the development on the living conditions of the local populace I have found that in regard to noise, the proposed noise mitigation measures would be properly secured and, if supplemented by the provision of the 'Cranford–specific' insulation scheme to those eligible for relocation assistance, would be adequate and appropriate to address the harms arising [1122]. In regard to air quality, whilst I have found that the development would not necessarily lead to breaches of the air quality objective the proposed mitigation is in any case necessary to adequately mitigate the adverse effects of the development and would be properly secured though the undertaking to HIL [1171].

1207. Although the ES notes that no residents will experience a significant beneficial effect whilst some 1700 dwellings (or around 4,450 people) will suffer significant adverse effects, it must be recognised that those figures are based on the ES definition of significant adverse effects, a definition which is not reflected in the Government's approach to the need for mitigation. Insofar as the proposed mitigation reflects, indeed in certain respects exceeds, what is expected by Government policy, and the effects of the development do not appear materially different to those predicted at the time the decision was taken to end the Cranford Agreement, there would be substantial public interest benefits resulting from the development. In my view that and the other identified considerations are sufficient to clearly outweigh the harm to the Green Belt and the other harm and the very special circumstances necessary to justify the development do exist [1178].

1208. In light of my considerations above, and having had regard to all other matters before the Inquiry including the submissions of the third parties, I conclude that, subject to the conditions laid out in Annex D and any relevant and substantive matters arising from the Judicial Review concerning the airspace change process [914], the development would comply with the development plan as a whole as well as with national policy and guidance.

RECOMMENDATION

1209. **I recommend,** in light of my overall conclusions above, but subject to any relevant and substantive matters arising from the Judicial Review concerning the airspace change process, that the Secretaries of State allow the appeal and grant planning permission for enabling works to allow implementation of full runway alternation during easterly operations at Heathrow Airport in accordance with the application dated Ref 41573/APP/2013/1288, dated 29 November 2013 subject to the conditions set out in Annex D to this report.

Lloyd Rodgers

Inspector

ANNEX A

APPEARANCES

FOR THE LOCAL PLANNING AUTHORITY AND RULE 6 PARTIES (THE LONDON BOROUGH OF HOUNSLOW AND THE GREATER LONDON AUTHORITY):

Mr Craig Howell Williams QC with Miss Melissa Murphy of Counsel	Instructed by the London Borough of Hillingdon, the London Borough of Hounslow and the Greater London Authority
He called	
Mr Daniele Fiumicelli Dip Env. Health, BSc (Hons), MSC, MCIEH, MIoA	Technical Director, Temple Group Limited
Mr Ian Thynne MA	Principal Sustainability Officer, London Borough of Hillingdon
Mr Adrien Waite MA, MRTPI	Major Applications Manager, London Borough of Hillingdon
Mr David Chivers BSc, Dip TP, MRTPI	Director Planning Design Partnership Limited, on behalf of the London Borough of Hounslow
Mr Lyndon Fothergill BA, Dip UPI, DipEcon, MSc, MA, MRTPI	Principal Strategic Planner, Greater London Authority. On behalf of the Mayor of London

FOR THE LOCAL PLANNING AUTHORITY AND RULE 6 PARTIES (THE LONDON BOROUGH OF HOUNSLOW AND THE GREATER LONDON AUTHORITY): (AIR QUALITY ROUND TABLE SESSION)

Professor Duncan Laxen BSc, MSc, PhD, MIEnvSci, FIAQM	Managing Director, Air Quality Consultants Limited

FOR THE APPELLANT, HEATHROW AIRPORT LIMITED:

Mr Hereward Phillpot QC with Mr Jack Connah of Counsel	Instructed by Tim Smith, Partner, Berwin Leighton Paisner LLP
He called	
Mr Rupert Thornely-Taylor FIoA, INCE (USA), MIIAV	Managing Director and Principal, Rupert Thornely-Taylor Ltd
Mr Mark Burgess (Degree in Aerospace Engineering)	Head of Air Traffic Management and Flight Performance, Heathrow Airport
Mr John Rhodes BSc MRICS	Director, Quod

FOR THE APPELLANT, HEATHROW AIRPORT LIMITED: (AIR QUALITY ROUND TABLE SESSION)

Mr Christopher Whall BSc (Hons), MSc, MIEnvSc, MIAQM	Director, Amec Foster Wheeler Environment & Infrastructure UK Ltd

INTERESTED PERSONS:

Mr G Gill	Local resident (561 Bath Road)
Mr K Gill	Local resident (533 Bath Road)
Councillor Gurpal Virdi	Cranford Ward
Councillor John Bowden	Royal Borough of Windsor and Maidenhead (Chair of Aviation Forum)

ANNEX B

CORE DOCUMENTS

DOCUMENT NUMBER	DOCUMENT NAME	PUBLICATION DATE
	GENERAL	
	Application / Appeal Documents	
CD/01/01	Heathrow Airport Limited Planning Statement	May 2013
CD/01/02	Heathrow Airport Environmental Statement	May 2013
CD/01/02a	Erratum Notes (January 2014) - Environmental Statement: Enabling works to allow implementation of full runway alternation during easterly operations at Heathrow Airport (Chapter 6)	January 2014
CD/01/03	London Borough of Hillingdon Committee Report	11 February 2014
CD/01/04	London Borough of Hillingdon Committee Report Addendum	11 February 2014
CD/01/05	London Borough of Hillingdon Decision Notice	21 March 2014
CD/01/06	Heathrow Airport Limited Statement of Case	17 September 2014
CD/01/07	London Borough of Hillingdon Statement of Case	Undated
CD/01/08	London Borough of Hounslow Statement of Case	Undated
CD/01/09	Mayor of London Statement of Case	2 February 2015
	Legislation	
CD/01/10	Civil Aviation Act 2012	2012
CD/01/11	Civil Aviation Act 2006	2006
CD/01/12	Transport Act 2000	2000
CD/01/13	Airports Act 1986	1986
CD/01/14	Civil Aviation Act 1982	2006
CD/01/15	Town and Country Planning (Environmental Impact Assessment) Regulations 2011	2011
	Policy	
CD/01/16	National Planning Policy Framework	March 2012
CD/01/17	Aviation Policy Framework	March 2013
CD/01/18	Written Ministerial Statement by the Minister of State, Department for Transport (Theresa Villiers): Heathrow Operations	7 September 2010
CD/01/19	The London Plan	March 2015
CD/01/20	London Borough of Hillingdon Local Plan: Part 1 – Strategic Policies	November 2012
CD/01/21	London Borough of Hillingdon Unitary Development Plan (adopted 1998) - Saved Policies	27 September 2007
CD/01/22	London Borough of Hillingdon Draft Local Plan: Part 2 – Development Management Policies	(proposed submission version, September 2014)

	Guidance	
CD/01/23	National Planning Practice Guidance	6 March 2014 (updated December 2014)
CD/01/23a	Guidance to the Civil Aviation Authority on Environmental Objectives Relating to Its Air Navigation Functions	January 2014
CD/01/23b	The Airspace Change Process. Directorate of Airspace Policy	Undated
CD/01/23c	Civil Aviation Authority (Air Navigation) Directions 2001 (Incorporating Variation Direction 2004)	Undated
	Other Documents	
CD/01/24	Adding Capacity at Heathrow Airport: Consultation Document (Department for Transport)	22 November 2007
CD/01/25	Adding Capacity at Heathrow: Decisions Following Consultation (Department for Transport)	15 January 2009
CD/01/26	Airports Commission: Interim Report	December 2013
CD/01/27	Future of Air Transport White Paper (Department of Transport)	December 2003
CD/01/28	Scoping Opinion (Ref: Cranford Scoping/Final/IRT)	22 August 2011
CD/01/29	LBH Clarification Letter (Ref: Cranford Agreement/Clarification of Details)	16 August 2013
CD/01/30	HAL Response to LBH Letter of 16 August 2013	20 September 2013
CD/01/31	Draft Aviation Policy Framework	July 2012
CD/01/32	Draft Aviation Policy Framework Consultation: Summary of Responses	
CD/01/33	Draft Aviation Policy Framework - London Councils' response	31 October 2011
CD/01/34	Thames Tideway Tunnel. Examining Authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for Communities and Local Government, and the Secretary of State for Environment, Food and Rural Affairs.	12 June 2014
CD/01/35	Secretary of State Decision Letter on the Application for the Proposed Thames Tideway Tunnel	12 September 2014
CD/01/36	Daniele Fiumicelli Response to Airports Commission	2 September 2013

	NOISE	
	Legislation	
CD/02/01	Environmental Noise (England) Regulations 2006	2006
CD/02/02	Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003	2003
	Policy	
CD/02/03	Noise Policy Statement for England	March 2010
	Guidance	
CD/02/04	Defra Guidance for Airport Operators to produce noise action plans under the terms of the Environmental Noise (England) Regulations 2006 (as amended)	July 2013
CD/02/04a	Guidance on Sound Insulation and Noise Reduction for Buildings. BS 8233:2014	February 2014
CD/02/04b	Guidelines for Environmental Noise Impact Assessment	October 2014
	Other documents	
CD/02/05	ERCD Report 0705: Revised Future Aircraft Noise Exposure Estimates for Heathrow Airport	23 November 2007
CD/02/06	Heathrow Airport Noise Action Plan 2013 - 2018	(revised) January 2014
CD/02/07	Acoustic Design of Schools: Performance Standards. BB93	December 2014
CD/02/08	Airports Commission Appraisal Framework	April 2014
CD/02/09	Applied Acoustics Technical Note Aircraft Noise Annoyance Estimation UK Time Patters Effects	2010
CD/02/10	Aircraft Noise in Australia: A survey of Community Reaction	February 1982
CD/02/11	Heathrow Responds to Calls for World Class Noise Insulation Scheme & Environmental Noise Directive, Noise Action Plan 2013-2018	2 February 2014
CD/02/12	Managing Aviation Noise. CAP 1165	2014
CD/02/13	National Noise Attitude Survey 2012 Report and Summary	December 2014
CD/02/14	Understanding UK Community Annoyance with Aircraft Noise ANSE Update Study	September 2013
CD/02/15	Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health Exposure Effect Relationship and Combined Effects (Ranch)	January 2001
CD/02/16	T5 Inspector's Report - Noise Paragraphs	Undated

	AIR QUALITY	
	Policy	
CD/03/01	Mayor of London's Air Quality Strategy	14 December 2010
CD/03/02	London Borough of Hillingdon Air Quality Action Plan	June 2004
CD/03/13	London Borough of Hillingdon, Air Quality Action Plan: Progress Report 2014	July 2014
	Guidance	
CD/03/03	Mayor of London's Sustainable Design and Construction SPG	1 April 2014
CD/03/05	Air Quality Neutral Planning Support: GLA 80371 (Air Quality Consultants/Environ)	May 2013
CD/03/11	Environmental Protection UK (2010) Development Control: Planning for Air Quality. Updated guidance from EPUK on dealing with air quality concerns within the development control process	2010
CD/03/12	Moorcroft and Barrowcliffe, et al. (2015) Land-use Planning & Development Control: Planning for Air Quality. Institute of Air Quality Management, London.	2015
	Other Documents	
CD/03/04	Heathrow Airport Limited: Air Quality Assessment of NO_2 Concentrations in 2017 and 2020 (Amec Foster Wheeler)	March 2015
CD/03/06	Heathrow Airport 2013 Air Quality Assessment, Ricardo-AEA/R/3438	January 2015
CD/03/07	The Heathrow Airport 2013 Air Quality Assessment: Model Evaluation Report, Ricardo-AEA/R/3439	February 2015
CD/03/08	HAL Air Quality Blueprint	April 2015
CD/03/09	HAL Air Quality Strategy and Action Plan	
CD/03/10	HAL Air Quality Strategy Summary	
CD/03/14	Air Quality Studies for Heathrow: Base Case, Segregated Mode, Mixed Mode and Third Runway Scenarios modelled using ADMS-Airport. Final report. Cambridge Environmental Research Consultants, prepared for Department for Transport, 15 November 2007	November 2007
CD/03/15	Letter to Heathrow Airport Limited on Air Quality	18 March 2015
CD/03/16	Letter to London Borough of Hillingdon on Air Quality	27 March 2015
CD/03/17	Further Letter to London Borough of Hillingdon on Air Quality	8 April 2015

	OPERATIONS	
	Guidance	
CD/04/01	CAP 725: CAA Guidance on the Application of the Airspace Change Process	30 March 2007
	Other Documents	
CD/04/02	Planning permission for Heathrow' Airport Terminal 5 (S.73 approval)	27 January 2003
CD/04/03	Heathrow Terminal Five and Associated Public Inquires. Report by Roy Vandermeer QC	November 2000
CD/04/04	Applications, Schemes and Orders Relating to A Proposed Fifth Terminal at Heathrow Airport	20 November 2001

ANNEX C

DOCUMENTS SUBMITTED AT THE INQUIRY

DOCUMENT NUMBER	DOCUMENT NAME	DATE	INTRODUCING PARTY
TUESDAY 2 JUNE 2015			
INQ/1	Appearance list of Heathrow Airport Limited ("**HAL**")	2 June 2015	HAL
INQ/2	Appearance list of the London Borough of Hillingdon ("**Hillingdon**"), the London Borough of Hounslow ("**Hounslow**") and the Mayor of London ("**GLA**") (together, the "**Authorities**")	2 June 2015	Authorities
INQ/3	Opening statement of HAL	2 June 2015	HAL
INQ/4	Opening statement of the Authorities	2 June 2015	Authorities
INQ/5	Unilateral Undertaking – Enabling works for easterly runway alternation Public Inquiry - Schools insulation works schedule	Undated	HAL
INQ/6	Letter from Hillingdon to Mrs K Gill (dated 15 July 2013), email correspondence between G Gill and HAL, photographs taken by Mrs K Gill	Various	Mr G Gill
INQ/7	Comments from Mr Cummings to the Planning Inspectorate ("**PINS**")	26 May 2015	Inspector
INQ/8	National Planning Practice Guidance – Noise	Sections last updated 6 March 2014/24 December 2014	Hillingdon
INQ/8A	List of approved application plans and ES drawings	Undated	Hillingdon
WEDNESDAY 3 JUNE 2015			
INQ/9	Revised opening statement of the Authorities	2 June 2015	Authorities
INQ/10	Paginated version of HAL/RTT/A/02	5 May 2015	HAL
INQ/11	List of Inquiry Documents	2 June 2015	HAL
INQ/12	Revised Core Documents list (dated)	2 June 2015	HAL

DOCUMENTS SUBMITTED AT THE INQUIRY (CONTD)

THURSDAY 4 JUNE			
INQ/13	Extract - EEA Technical report No 11/2010 – Good practice guide on noise exposure and potential health effects - section 3.1 (pages 9 – 11)	2010	HAL
INQ/14	Extract - Trends in aircraft noise annoyance: the role of study and sample characteristics (Janssen, S.A., Vos, H., van Kempen E.E., Breugelmans O.R., Miedema H.M., 2011, Journal of the Acoustical Society of America, 129(4), 1953-1962) – section VII Conclusion (pages 1960 – 1961)	April 2011	HAL
INQ/15	Summary and Conclusions of Ian Thynne (Proof of Evidence - Reasons 3 and 4 - Environmental Impact Assessment)	Undated	Hillingdon
INQ/16	Health & Equalities Impact Assessment (also submitted with application)	May 2013	Authorities
FRIDAY 5 JUNE			
INQ/17	External and internal noise surveys of London primary schools (Bridget Shield & Julie E. Dockrell)	Undated	Authorities
INQ/18	Application drawing list	Undated	HAL
TUESDAY 9 JUNE			
INQ/19	Note in response to representations of Messrs. Gill	Undated	HAL
INQ/20	Draft inquiry timetable	Undated	Inspector
INQ/21A	Hounslow local plan policies	Various	Hillingdon
INQ/21B	Hounslow emerging local plan	N/A	Hillingdon
INQ/22	Note: 'Heathrow-Financial Assistance with Relocation'	8 June 2015	HAL
WEDNESDAY 10 JUNE			
INQ/23	Note on list of schools	10 June 2015	HAL
INQ/23A	Revised note on list of schools (distributed Wednesday 17 June)	11 June 2015	HAL
INQ/24	London Planning Statement, Supplementary Planning Guidance	May 2014	GLA
THURSDAY 11 JUNE			
INQ/25	Errata Note on Proof of Evidence of David Chivers	9 June 2015	Hounslow
ING/25A	Additions and Errata to Proof of Evidence by DP Chivers on behalf of LB Hounslow (submitted on 18 June)	16 June 2015	Hounslow
INQ/26	Note to Inquiry on Schools and bundle of drawings	10 June 2015	Hounslow
INQ/27	HM Treasury: Stamp duty reforms on residential property	Undated	HAL
FRIDAY 12 JUNE			
INQ/28	Draft schedule of conditions	Undated	Authorities and HAL

DOCUMENTS SUBMITTED AT THE INQUIRY (CONTD)

TUESDAY 16 JUNE			
INQ/29A	Draft Unilateral Undertaking to Hillingdon	Undated	HAL
INQ/29B	Draft Unilateral Undertaking to Hounslow and Hillingdon	Undated	HAL
INQ/29C	Figure 3: Plan for Type C Properties	June 2015	HAL
INQ/30	Note of Councillor Bowden's oral statement to the Inquiry	Undated	Authorities
INQ/31A	Plan of Longford noise barrier alignment with respect to Greenbelt and Conservation areas (shaded)	June 2015	HAL
INQ/31B	Plan of Longford noise barrier alignment with respect to Greenbelt and Conservation areas (unshaded)	June 2015	HAL
WEDNESDAY 17 JUNE			
INQ/32	Letter from Councillor Lenton	12 June 2015	Authorities
INQ/33	Extracts (sections 1, 2 and 12): Thames Tideway Tunnel - Examining authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for Communities and Local Government and the Secretary of State for Environment, Food and Rural Affairs	12 June 2014	HAL
INQ/34	Agreed site visit itinerary (Tuesday 23 June)	Undated	HAL and Authorities
INQ/35	Note for the Inspector on Aircraft Noise Contours	Undated	HAL
INQ/36	Ground Noise and Air and Ground Noise Contours: Note for Inspector	Undated	HAL
THURSDAY 18 JUNE			
INQ/37	Note on differences of Chivers' proofs (including copy of proof sent to HAL showing changes and version sent to Inspector)	Undated	Hounslow
INQ/38	Note on why certain schools are contained within the 8 hour contour but not in the 16 hour contour (Daniele Fiumicelli)	18 June 2015	Authorities
INQ/39	Revised unilateral undertaking to Hillingdon (including provisions on Littlebrook Nursery)	Undated	HAL
INQ/40	Calculation of air quality trends at Green Gates (Duncan Laxen)	Undated	Authorities

DOCUMENTS SUBMITTED AT THE INQUIRY (CONTD)

FRIDAY 19 JUNE			
INQ/41	HAL note on the table at para 3.5 of John Rhodes' proof (HAL/JR/P/01)	19 June 2015	HAL
INQ/42	Final version of CD/03/12 – Moorcroft and Barrowcliffe, et al. (2015) Land-Use Planning & Development Control: Planning for Air Quality (EPUK & IAQM) (v.1.1)	May 2015	Authorities
INQ/43	Documents relevant to planning conditions (list of conditions agreed, list of conditions not agreed, email correspondence from Adrien Waite (Hillingdon) to Stephen Allen (HAL), draft schedule of conditions, HAL suggested amendments to archaeology and construction management conditions)	Undated	Authorities and HAL
INQ/44	Letter from Historic England to PINS regarding archaeological condition	15 June 2015	Inspector
INQ/45	Contour plans showing public open spaces	Undated	Authorities
INQ/46	Daniele Fiumicelli supporting documents – comments on s.106 session (18 June 2015)	Undated	Hillingdon
INQ/47	Letter from Tuffin Ferraby Taylor to Mr S Allen (HAL) and schools insulation cost schedule	19 June 2015	HAL

DOCUMENTS SUBMITTED FOLLOWING ADJOURNMENT ON 19 JUNE

WEDNESDAY 24 JUNE			
INQ/48	Inspector's note on outstanding actions following adjournment of Inquiry on 19 June	June 2015	Inspector
WEDNESDAY 24 JUNE			
INQ/49	HAL Technical note: Noise Contours and Insulation Schemes	June 2015	HAL
INQ/50	HAL Technical note: Inclusion of TEAM within Noise Assessment	June 2015	HAL
FRIDAY 26 JUNE			
INQ/51A	Marked-up draft Unilateral Undertaking to Hillingdon with Council comments	Undated	HAL
INQ/51B	Marked-up draft Unilateral Undertaking to Hounslow and Hillingdon with Council comments	Undated	HAL
INQ/52A	List of conditions not agreed – with track changes	Undated	HAL
INQ/52B	List of conditions agreed – with track changes	Undated	HAL

FRIDAY 3 JULY			
INQ/53	Comments in respect of s106 Unilateral Undertakings on behalf of the GLA, LB Hounslow and LB HIllingdon	3 July 2015	Authorities
INQ/54	Council's suggested list of conditions	Undated	Hillingdon
MONDAY 6 JULY			
INQ/55	Revised marked-up draft Unilateral Undertaking to Hounslow and Hillingdon with Council comments	Undated	Authorities
INQ/56A	HAL Statement of Uncommon Ground – Noise Matters	Undated	HAL
INQ/56B	Authorities' Statement of Uncommon Ground – Noise Matters	6 July 2015	Authorities
THURSDAY 9 JULY			
INQ/57	List of authorities relied on by HAL	9 July 2015	HAL
INQ/57A	Hard copy of authorities relied on by HAL	Undated	HAL
INQ/58	List of authorities on behalf of the GLA, LB Hounslow and LB HIllingdon	Undated	Authorities
INQ/58A	Hard copy of authorities on behalf of the GLA, LB Hounslow and LB HIllingdon	Undated	Authorities
WEDNESDAY 15 JULY			
INQ/59A	Final (unsigned) version of Unilateral Undertaking to the London Borough of Hillingdon plus attachments	Undated	HAL
INQ/59B	Final (unsigned) version of Unilateral Undertaking to the London Boroughs of Hounslow and Hillingdon inc. attachments	Undated	HAL
INQ/60	HAL's response to the Authorities' comments on the unilateral undertakings	Undated	HAL
THURSDAY 16 JULY			
INQ/61	Note reconciling school names used in various Inquiry Documents	Undated	HAL
WEDNESDAY 22 JULY			
INQ/62A	Final (signed) version of Unilateral Undertaking to the London Borough of Hillingdon	22 July 2015	HAL
INQ/62B	Final (signed) version of Unilateral Undertaking to the London Boroughs of Hounslow and Hillingdon	22 July 2015	HAL
THURSDAY 23 JULY			
INQ/63	Closing submissions on behalf of Authorities	Undated	Authorities
FRIDAY 24 JULY			
INQ/64	Closing submissions on behalf of HAL	24 July 2015	HAL
MONDAY 27 JULY			
INQ/65	Authorities' response concerning disputed matters of fact/law	27 July 2015	Authorities
TUESDAY 28 JULY			
INQ/66	Response to disputed matters of fact/law on behalf of HAL	28 July 2015	HAL
MONDAY 3 AUGUST			
INQ/67	Responses to Inspector queries.	Undated	HAL/Authorities

ANNEX D

CONDITIONS

1) The development hereby permitted shall begin not later than three years from the date of this decision.

2) The development hereby permitted shall be carried out in accordance with the following approved plans:

   Fig 2.1_29528-A91 Current Airfield Layout

   10000-XX-GA-100-000191 v. 1.0 Site Location Plan

   10000-XX-GA-100-000192 v. 1.0 Proposed Layout Plan

   10000-XX-GA-100-000193 v. 1.0 New Pavement and Breakout Areas

   10000-00-GA-XXX-000149 v. 1.0 Noise Barrier Detailed Plan A

   10000-00-GA-XXX-000150 v. 1.0 Noise Barrier Detailed Plan B

   10000-00-GA-XXX-000151 v. 1.0 Noise Barrier Detailed Plan C

   10000-00-GA-XXX-000148 v. 1.0 Noise Barrier General Arrangement

   10000-00-GA-XXX-000143 v. 3.0 Noise Barrier Section AA

   10000-00-GA-XXX-000144 v. 1.0 Noise Barrier Section BB

   10000-00-GA-XXX-000153 v. 2.0 Site Boundary for construction and site

   10000-00-GA-XXX-000145 v. 2.0 Site Compound and Access Route

   10000-00-GA-XXX-000142 v. 4.0 Noise Barrier Site Location Plan

   10000-00-SE-XXX-000001 v. 1.0 Noise Barrier Typical Cross Sections

3) No development shall take place until a noise barrier landscaping scheme has been submitted to and approved in writing by the local planning authority. The scheme shall include detailed planting plans, a planting specification and a schedule of landscape maintenance for a minimum period of 5 years from implementation. The approved landscaping scheme shall be implemented in the first planting season following completion of the noise barrier and shall thereafter be maintained in accordance with the approved schedule of landscape maintenance.

4) No development shall take place until full details of the noise barrier have been submitted to and approved in writing by the local planning authority. The details shall include:

   i. the materials to be used in both the lower three metres and the upper transparent two metre element

   ii. details of the acoustic properties of the barrier and the noise reduction provided by the materials/structure

   iii. the means of bird avoidance for the transparent element

   iv. the means of supporting the fence structure.

   Scheduled Easterly Alternation shall not commence until the noise barrier has been fully installed in accordance with the approved details.

5) No development shall take place in Area A13E or LINK 59 until a written scheme of investigation (WSI) for these areas, having regard to the constraints involved when working near to operational runways and taxiways, as identified in the CAA publication CAP 168 (Licensing of Aerodromes) or any replacement or update of that publication, has been submitted to and approved by the local planning authority in writing. No development shall take place in Area A13E or LINK 59 other than in accordance with the agreed WSI, which shall include the statement of significance and research objectives, and

- The programme and methodology of site investigation and recording and the nomination of a competent person or organisation to undertake the agreed works, and
- The programme for post-investigation assessment and subsequent analysis, publication & dissemination and deposition of resulting material. This part of the condition shall not be discharged until these elements have been fulfilled in accordance with the programme set out in the WSI.

6) No development shall take place, including any works of demolition, until a Construction Environmental Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved Plan shall be adhered to throughout the construction period.

In relation to the proposed noise barrier, the Plan shall address the following construction related issues (but not limited to):

1. Noise and Vibration Management;
2. Air Quality;
3. Water Quality;
4. Ecology;
5. Visual Impact; and
6. Waste Management.

In relation to the proposed airfield works, the Plan shall address Air Quality matters only.

The measures set out within the Construction Environmental Management Plan shall have regard to best practice guidance and planning policy including, but not limited to, The Mayors 'The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance'.

7) No development shall take place, including any works of demolition, until a Construction Logistics Plan has been submitted to and approved in writing by the Local Planning Authority (in consultation with Transport for London). The Construction Logistics Plan shall include measures to manage all freight vehicle movements to and from the site identifying efficiency and sustainability measures to be undertaken during site construction of the development. The development shall not be carried out otherwise than in accordance with the approved Construction Logistics Plan or any approved amendments thereto as may be agreed in writing by the Local Planning Authority (in consultation with Transport for London).

8) No development shall take place until drainage details relating to the airfield works have been submitted to and approved in writing by the Local Planning Authority. Development shall thereafter take place in accordance with the approved details.

9) Any property which, after Scheduled Easterly Alternation has commenced, would experience external aircraft noise levels of 69dB LAeq 16hrs or more (referred to in the submitted obligations as a 'Type A Property') shall be offered, as an alternative to relocation assistance, noise insulation on the same terms and in the same form as a property which, after Scheduled Easterly Alternation has commenced, would experience an increase of 3dB or more which results in exposure to external aircraft noise levels of 63dB LAeq 16hrs or more (referred to in the submitted obligations as a 'Type B Property').

Department for
Communities and
Local Government

www.gov.uk/dclg

RIGHT TO CHALLENGE THE DECISION IN THE HIGH COURT

These notes are provided for guidance only and apply only to challenges under the legislation specified. If you require further advice on making any High Court challenge, or making an application for Judicial Review, you should consult a solicitor or other advisor or contact the Crown Office at the Royal Courts of Justice, Queens Bench Division, Strand, London, WC2 2LL (0207 947 6000).

The attached decision is final unless it is successfully challenged in the Courts. The Secretary of State cannot amend or interpret the decision. It may be redetermined by the Secretary of State only if the decision is quashed by the Courts. However, if it is redetermined, it does not necessarily follow that the original decision will be reversed.

SECTION 1: PLANNING APPEALS AND CALLED-IN PLANNING APPLICATIONS

The decision may be challenged by making an application for permission to the High Court under section 288 of the Town and Country Planning Act 1990 (the TCP Act).

Challenges under Section 288 of the TCP Act
With the permission of the High Court under section 288 of the TCP Act, decisions on called-in applications under section 77 of the TCP Act (planning), appeals under section 78 (planning) may be challenged. Any person aggrieved by the decision may question the validity of the decision on the grounds that it is not within the powers of the Act or that any of the relevant requirements have not been complied with in relation to the decision. An application for leave under this section must be made within six weeks from the day after the date of the decision.

SECTION 2: ENFORCEMENT APPEALS

Challenges under Section 289 of the TCP Act
Decisions on recovered enforcement appeals under all grounds can be challenged under section 289 of the TCP Act. To challenge the enforcement decision, permission must first be obtained from the Court. If the Court does not consider that there is an arguable case, it may refuse permission. Application for leave to make a challenge must be received by the Administrative Court within 28 days of the decision, unless the Court extends this period.

SECTION 3: AWARDS OF COSTS

A challenge to the decision on an application for an award of costs which is connected with a decision under section 77 or 78 of the TCP Act can be made under section 288 of the TCP Act if permission of the High Court is granted.

SECTION 4: INSPECTION OF DOCUMENTS

Where an inquiry or hearing has been held any person who is entitled to be notified of the decision has a statutory right to view the documents, photographs and plans listed in the appendix to the Inspector's report of the inquiry or hearing within 6 weeks of the day after the date of the decision. If you are such a person and you wish to view the documents you should get in touch with the office at the address from which the decision was issued, as shown on the letterhead on the decision letter, quoting the reference number and stating the day and time you wish to visit. At least 3 days notice should be given, if possible.