

LONDON CITY AIRPORT - CADP1 S73 APPLICATION - APPEAL

EIA Public Health and Wellbeing - Technical Note

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1 INTRODUCTION

1.1 Qualifications and Experience

- 1.1.1 My name is Ryngan Pyper (MA PGDip CEnv MIEMA PFPH), Director of Health and Social Impact at RPS. I have over 18 years' experience as a professional consultant and am a competent expert for statutory assessment of Human Health as part of Environmental Impact Assessment (EIA).
- 1.1.2 I am an international expert on Health Impact Assessment (**HIA**), including health assessment integrated as part of EIA. I work with the private and the public sector, including to provide health input into major infrastructure schemes. I advise Government and professional bodies on good practice.
- 1.1.3 My approach to assessment includes a focus on vulnerable population groups and considering the potential for significant health inequalities. During my career I have provided assessments for vulnerable adults and children, including within the criminal justice system, for the homeless and for those taken into care by local authorities.
- 1.1.4 Notable publications:
- First author of the Institute of Environmental Management and Assessment (**IEMA**) Guides: Determining Significance for Human Health in EIA (IEMA, 2022b) and Effective Scoping of Human Health in EIA (IEMA, 2022a). These are the guidance documents for EIA health assessments in the UK.
 - First author of the World Health Organization research report: Learning from practice, Case studies of health in strategic environmental assessment and environmental impact assessment across the WHO European Region (World Health Organization, 2022).
 - First author of the Institute of Public Health guidance on Health Impact Assessment, Standalone HIA and health in Environmental Assessment. 2021. (Pyper et al., 2021)
- 1.1.5 Qualifications:
- Postgraduate Diploma (distinction) – Public Health, University of York. I specialised in epidemiology, health statistics, public health ethics, infection & disease, health & social behaviour, and qualitative methods.
 - Postgraduate Diploma (distinction) – Legal Practice, University of Oxford
 - MA & BA Hon – Biological Sciences, University of Oxford, including flight dynamics and quantitative methods.
- 1.1.6 Memberships:
- Honorary Research Fellow and Member of the World Health Organization Collaborating Centre on Health in Impact Assessment at the University of Liverpool.
 - Faculty of Public Health (FPH) – registered public health Practitioner and member of the European Public Health Association (EUPHA).
 - IEMA, Full Member, Health Working Group, Chartered Environmentalist.
 - International Association for Impact Assessment, Health Section Chair
- 1.1.7 My experience of aviation projects includes work for Heathrow, Gatwick, Leeds Bradford and Bristol Airport. As an expert witness on aviation projects, I have demonstrated robust health assessment. I am the author of the City Airport Development Programme (**CADP1**) S73 Application Environmental Statement (**ES**), Chapter 12: Public Health and well-being, December 2022 (CD1.19).

1.2 Scope of Technical Note

1.2.1 This Technical Note is provided on behalf of London City Airport Limited (“**LCY**” or the “**Airport**”). It relates to the Appeal against the London Borough of Newham (“**LBN**”) refusal of LCY’s Section 73 application reference 22/03045/VAR (“**Section 73 Application**”) for:

“variation of Conditions 2 (Approved documents), 8 (Aircraft Maintenance), 12 (Aircraft Take-off and Land Times, 23, 25, 26 (Daily limits), 35 (Temporary Facilities), 42 (Terminal Opening Hours), 43 (Passengers) and 50 (Ground Running) to allow up to 9 million passengers per annum (currently limited to 6.5 million), arrivals and departures on Saturdays until 18:30 with up to 12 arrivals for a further hour during British Summer Time (currently allowed until 12:30), modifications to daily, weekend and other limits on flights and minor design changes, including to the forecourt and airfield layout attached to planning permission 13/01228/FUL)”

1.2.2 The Section 73 Application relates to planning permission 13/01228/FUL which was allowed on appeal APP/G5750/W/15/3035673 on 26th July 2016 (“**CADP1**”) (CD2.7).

1.2.3 The Section 73 Application changes are referred to as the ‘Proposed Amendments’. The CADP1 scheme as amended by the Proposed Amendments constitutes the “Proposed Development”.

1.2.4 My evidence relates to the EIA Human Health effects of the Proposed Amendments, with a focus on responding, from the public health perspective, to confirm that LBN’s reason for refusal (“**RFR**”) 1, which cites potential for significant harm to residential amenity, is not health related harm. I also respond to health-related issues raised by Rule 6 parties and other third parties.

1.2.5 My evidence references health assessment for the Proposed Development set out in:

- Chapter 12 of the ES included with the 22/03045/VAR planning application, dated December 2022 (hereafter the “**Health Assessment**”) (CD1.19). The assessment is part of the EIA required under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended); and
- The 2015 Health Impact Assessment (HIA) (hereafter the “**2015 HIA**”) (CD2.1.4) undertaken alongside the 2015 Updated Environmental Statement (UES) relating to planning permission 13/01228/FUL allowed on appeal APP/G5750/W/15/3035673 dated 26th July 2016 (CD2.7).

1.2.6 Reference is made to LBN’s conclusions and technical review of the Health Assessment set out in:

- Review of the Environmental Statement for London City Airport, Final Report, prepared by LUC, June 2023 (hereafter the “**LUC ES Review**”) (CD4.5.10). The relevant paragraphs of the LUC ES Review for the Health Assessment are paragraphs 11.1 to 11.19 (the Health Assessment overall) and C.48 to C.86 (specific discussion of air quality health effects). It is noted that paragraphs C.48 to C.86 of the Final ES Review supersede paragraphs 11.20 to 11.67. Table 15.1 confirms the technical matters raised and resolved.
- LBN Officer’s Report (OR) to the LBN Strategic Development Committee dated 10th July 2023 (hereafter the “**OR**”) (CD4.3.1). Paragraphs 282 to 284 relate to the Health Assessment.

1.2.7 Reference is also made to agreement reached with LBN and their technical advisors set out in:

- The final Statement of Common Ground (“**SoCG**”) dated 23 October 2023 between LBN and LCY (CD11.2). Section 13 of which discusses the position agreed on Health and section 17 (item k) confirms the area where there is not agreement on health in noise policy terms, but that this does not relate to the conclusions of the Health Assessment, which are agreed.

1.3 Structure of the Technical Note

1.3.1 The Technical Note is structured as follows:

- Section 2: sets out the RFR, SoCG position and the role of the health evidence;
- Section 3: summaries the legislative and policy context, as well as relevant guidance;
- Section 4: sets out an overview of the Health Assessment;
- Section 5: sets out the health evidence responding to RFR 1;
- Section 6: sets out the health evidence responding to Rule 6 Party HACAN East;
- Section 7: sets out my conclusions; and
- Section 8: provides references.

1.4 Declaration

1.4.1 I adhere to Codes of Professional Conduct, including IEMA ("IEMA Code of Professional Conduct,"), Society for the Environment ("Society for the Environment Code of Professional Conduct,"), and the IAIA ("IAIA Professional Code of Conduct,"). My evidence is honest, and I have applied my knowledge and skills to the best of my ability.

1.4.2 The evidence which I have prepared and provide for this Appeal reference APP/G5750/W/23/3326646 in this technical note is true and has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.

2 REASONS FOR REFUSAL (RFR)

RFR 1

2.1.1 The LBN Decision Notice 24th July 2023 (CD4.4.1) RFR 1 states:

“The proposal, by reason of the additional morning and Saturday flights, and reduction of the existing Saturday curfew would result in a new material noise impact which would result in significant harm to the residential amenity of nearby residential properties. This would be contrary to policies D13 and T8 of The London Plan (2021) and policies SP2 and SP8 of the Newham Local Plan (2018).” [Emphasis added].

SoCG

2.1.2 Section 13.0 of the final SoCG dated 23 October 2023 between LBN and LCY (CD11.2) confirms:

“13.1 LBN does not consider health impacts to be a reason for refusal...”

“There is agreement on the noise assessment conclusions (sections 12.9, 12.10, 12.20 and 12.21) in Chapter 12 of the ES (Public health and wellbeing) that there would be minor adverse (not significant) population health effects.”

2.1.3 LBN does not consider noise health impacts to be a reason for refusal subject to:

- 1) LBN considers the loss of Saturday afternoon curfew as significant in terms of noise policy; and
- 2) LBN considers that significant effects from noise may need to be identified where there is a 1 dB change or more above the relevant SOAEL threshold (based on the outcome of the Luton S73 decision).

“However, LBN has confirmed that these are noise policy matters covered earlier in [the] SoCG, they do not relate to amenity and they are not relevant to the community health assessment presented in Chapter 12 of the ES which is common ground.”

Role of the health evidence

2.1.4 Whilst the Health Assessment is not disputed by LBN and health is not cited as a reason for refusal by LBN; the health evidence provided herein:

- confirms that there is not a public health dimension to RFR 1;
- provides an input to the planning balance in relation to significant beneficial health effects; and
- responds to issues raised by Rule 6 and third parties relevant to health in their respective Statements of Case (**SoC**) and other representations.

3 LEGISLATIVE AND POLICY CONTEXT

3.1 Legislation

- 3.1.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter “**the EIA Regulations**”) at regulation 4(2) set out the health assessment requirement: “*The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors— (a) population and human health; ...*”.
- 3.1.2 A compliant assessment of Human Health has been undertaken under the EIA Regulations. This is not disputed by LBN in the Decision Notice (CD4.4.1) or the OR (CD4.3.1), by their consultants in the LUC ES Review (CD4.5.10), or in the SoCG dated 23 October 2023 between LBN and LCY (CD11.2).

3.2 Relevant National Planning Policy

- 3.2.1 This section considers key health related policy relevant to the Appeal. See ES Chapter 12 section 12.2 for further policy references (CD1.19).

National policy

- 3.2.2 The National Planning Policy Framework (“**NPPF**”) (September 2023) (CD3.2.1) (Ministry of Housing, Communities and Local Government, 2023) sets out the planning policies for England. Promoting healthy and safe communities is a central theme, whereby the NPPF states:

Paragraph	Policy wording [emphasis added]	Application to the Proposed Development
Paragraph 185	<i>“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment... In doing so they should: mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development, avoid noise giving rise to significant adverse impacts on health and the quality of life; identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason...”</i>	It has been shown that there are not significant adverse population health effects in this case. Whilst tranquil areas are to be preserved due to amenity value, there is no suggestion that the residential areas near the Airport are tranquil areas within the meaning of this policy.
Paragraph 188	<i>“The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively.”</i>	In this case that there is an existing airport indicates the use of land is acceptable (there is no additional land being developed).

Aviation Policy Framework (2013) (CD3.5.1)

- 1.1.1 The Aviation Policy Framework (Department for Transport, 2013) notes:

Paragraph	Policy wording [emphasis added]	Application to the Proposed Development
Paragraph 5	<i>"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..."</i>	Health benefits should be given weight within the planning balance and weighed against adverse impacts in respect of noise.
Paragraph 3.21	<i>"The NPPF expects local planning policies and decisions to ensure that new development is appropriate for its location and the effects of pollution – including noise – on health.... In the same way that some people consider themselves annoyed by aircraft noise even though they live some distance from an airport ..., other people living closer to an airport seem to be tolerant of aircraft noise and may choose to live closer to the airport to be near to employment or to benefit from the travel opportunities".</i>	This indicates that proximity alone is not definitive in terms of subjective response to noise. Furthermore, the benefits of airports are also part of people's response to aviation noise.

Policy Paper, Overarching Aviation Noise Policy, DfT, March 2023 (CD 3.5.8)

1.1.2 In March 2023 the Department for Transport published a short policy paper on their overarching aviation noise policy (CD3.5.8), as an interim statement of overarching noise policy to help frame the Night Restrictions objective for Night Restrictions Consultation that was launched, ahead of a full noise policy statement expected later in 2023.

1.1.3 The policy paper states (there are no paragraph numbers):

Paragraph	Policy wording [emphasis added]	Application to the Proposed Development
NA	<p>'The impact of aviation noise must be mitigated as much as is practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise' [emphasis added].</p> <p>'We consider that "limit, and where possible reduce" remains appropriate wording. An overall reduction in total adverse effects is desirable, but in the context of sustainable growth an increase in total adverse effects may be offset by an increase in economic and consumer benefits' [emphasis added].</p> <p>'In circumstances where there is an increase in total adverse effects, "limit" would mean to mitigate and minimise adverse effects, in line with the Noise Policy Statement for England.'</p> <p><i>"...the environmental impact of aviation must be mitigated as much as is practicable and realistic to do so. We have ... introduced this phrase into our overarching policy."</i></p>	<p>The policy confirms that mitigating and minimising adverse effects is appropriate in cases where there is an increase in noise. Noise increases may also be offset by economic and consumer benefits.</p> <p>The Proposed Development includes substantial and secured embedded mitigation and compensation including an enhanced sound insulation scheme. It would not be practical or realistic to mitigate effects in outdoor private spaces, though control at source is achieved though conditions discussed in detail in the proof of Richard Greer.</p>

Noise Policy Statement for England (NPSE) (Department for Environment, Food & Rural Affairs, 2010) (CD3.7.2)

1.1.4 The NPSE represents the Government's policy position on noise management decisions (CD3.7.2).

Paragraph	Policy wording [emphasis added]	Application to the Proposed Development
Paragraph 2.1	"Noise is an inevitable consequence of a mature and vibrant society".	The context.
Paragraph 2.7	"... the application of the NPSE should enable noise to be considered alongside other relevant issues and not to be considered in isolation . In the past, the wider benefits of a particular policy, development or other activity may not have been given adequate weight when assessing the noise implications".	The socio-economic and consumer benefits must be considered alongside noise effects.
Paragraph 1.8	"The vision and aims of NPSE should be interpreted by having regard to the set of shared UK principles that underpin the Government's sustainable development strategy. ... [These include:] Ensuring a Strong Healthy and Just Society – Meeting the diverse needs of all people in existing and future communities, promoting personal wellbeing, social cohesion and inclusion, and creating equal opportunity for all. ... Achieving a Sustainable Economy – Building a strong, stable and sustainable economy which provides prosperity and opportunities for all , and in which environmental and social costs fall on those who impose them (polluter pays), and efficient resource use is incentivised".	Noise effects must be placed in the context of a wider sustainable development agenda, including the diverse needs of all people, not just those neighbouring the Airport. This also includes that linked economic effects also need to be given weight when considering aviation noise.
Paragraph 2.18	"There is a need to integrate consideration of the economic and social benefit of the activity or policy under examination with proper consideration of the adverse environmental effects, including the impact of noise on health and quality of life. This should avoid noise being treated in isolation in any particular situation, ie not focussing solely on the noise impact without taking into account other related factors".	Noise effects, including on health and quality of life, must not be treated in isolation from the economic and social benefits of aviation.

3.3 Guidance

- 3.3.1 There is a clear basis for assessing Human Health in EIA and this is set out by the Institute of Environmental Assessment and Management (IEMA) in their two November 2022 publications:
- Pyper, R., Lamming, M., Beard, C., Waples, H., Birley, M., Buroni, A., Douglas, M., Turton, P., Hardy, K., Netherton, A., McClenaghan, R., Barratt, T., Bhatt, A., Fenech, B., Dunne, A., Hodgson, G., Gibson, G., Purdy, J., Cave, B. (2022) IEMA Guide: **Effective Scoping of Human Health in Environmental Impact Assessment**.(CD 3.8.3) ("IEMA, 2022a")
 - Pyper, R., Waples, H., Beard, C., Barratt, T., Hardy, K., Turton, P., Netherton, A., McDonald, J., Buroni, A., Bhatt, A., Phelan, E., Scott, I., Fisher, T., Christian, G., Ekermawi, R., Devine, K., McClenaghan, R., Fenech, B., Dunne, A., Hodgson, G., Purdy, J., Cave, B. (2022) IEMA Guide: **Determining Significance for Human Health in Environmental Impact Assessment**.(CD 3.8.2) ("IEMA, 2022b")
- 3.3.2 In addition to academic institutes, local government and private sector consultancies, the authors of these guides (as set out in their respective acknowledgement sections) include individuals from:
- UK Health Security Agency;
 - Department of Health and Social Care Office for Health Improvement and Disparities;
 - Institute of Public Health (covering Northern Ireland and Republic of Ireland);
 - Public Health Wales; and
 - Public Health Scotland.
- 3.3.3 The IEMA guidance is therefore established as a consensus position from across public health stakeholders for EIA as a technical assessment in the UK.
- 3.3.4 The IEMA guides adopt and build on the approach that was previously set out by the International Association of Impact Assessment (IAIA) and European Public Health Association (EUPHA) (Cave et al., 2020) (CD3.8.6) and by the Institute of Public Health (Pyper et al., 2021) (CD3.8.5).
- 3.3.5 The Health Assessment follows the IEMA guidance (IEMA, 2022b); (IEMA, 2022a). This is not disputed by LBN in the Decision Notice (CD4.4.1), OR (CD4.3.1) or by its consultants in the LUC ES Review (CD4.5.10).
- 3.3.6 The SoCG dated 23 October 2023 reflects that the methods of assessment, receptors (including close to the Airport), evidence cited, and conclusions reached for population health are agreed between LBN and LCY (CD11.2).
- 3.3.7 The National Planning Practice Guidance (NPPG) (Department for Levelling Up, Housing and Communities, 2022) supports the NPPF and provides guidance across a range of topic areas, including 'healthy and safe communities' (CD3.8.4)
- 3.3.8 As stated in the NPPG, engagement with individuals and/or organisations, such as the relevant Director(s) of Public Health, will help ensure local public health strategies and any inequalities are considered appropriately.
- 3.3.9 There has been engagement with the LBN Deputy Direct of Public Health on 14th and 20th September 2022 to agree the scope and methods of the Health Assessment, including consideration of local public health intelligence and priorities. This is set out in ES Chapter 12 (CD1.19). That there has been appropriate engagement with public health stakeholders is agreed between LBN and LCY in the SoCG dated 23 October 2023 (CD11.2).

4 OVERVIEW OF THE HEALTH ASSESSMENT

4.1 Framing conclusion on health in EIA

The context of a population health approach having been followed in the Health Assessment

- 4.1.1 Before getting into the conclusions of the Health Assessment, it is informative to consider the basis of assessment for Human Health in EIA. The Human Health assessment is not simply a collation and restating of the conclusions of other technical assessments of the ES; but rather provides further analysis to assess the public health implications of the finding of those other topic areas.
- 4.1.2 An area of general clarification is that Human Health in EIA takes a ‘population health’ approach.
- 4.1.3 Relevant definitions of health and population are as follows:
- ‘Health’ is a “*state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity*” (CD3.8.13) (World Health Organization, 1948)
 - ‘Population health’ refers to the health outcomes of a group of individuals, including the distribution of such outcomes within the group (CD3.8.10) (Kindig and Stoddart, 2003).
- 4.1.4 The Faculty of Public Health is the UK professional body for public health professionals. Public health is “*the science and art of preventing disease, prolonging life and promoting health and wellbeing, through the organised efforts of society*” (CD3.8.8) (Faculty of Public Health, 2020). Public health practice is population-based (Faculty of Public Health, 2016) (CD3.8.9). Health impact assessment is a public health specialist area of practice (Faculty of Public Health, 2020).
- 4.1.5 I show that EIA takes a population health approach. I reference guidance, the academic and practitioner literature that a population health approach is normal, and indeed best and established, practice.
- 4.1.6 In relation to EIA Human Health analysis and conclusions, IEMA guidance (IEMA, 2022b) paragraph 1.9 states without ambiguity (CD3.8.2):
- “The guidance confirms that a population health approach should be taken when determining significance.”*
- 4.1.7 Additional discussion of why a population health approach is appropriate is set out in section 5, paragraph 5.2, of the guidance (IEMA, 2022b). This includes the statement that:
- “EIA analysis at the level of individuals would likely mean that all determinants of health conclusions, positive or negative, would be significant on all projects because of the effects to some particularly sensitive individuals. This would be contrary to supporting decision-makers in identifying the material issues. Assessment of EIA significance at the level of individuals is not proportionate”. (IEMA, 2022b, CD3.8.2)).*
- 4.1.8 In simple terms, medical doctors and other primary and secondary healthcare professionals deal with treating the health outcomes of individuals. Public health, including health impact assessment of development proposals, deals with the health outcomes of populations, including inequalities for vulnerable sub-populations.

The counterfactual position on population health

- 4.1.9 I am clear, as is guidance, that although populations are comprised of individuals, the utility of an EIA health analysis is in providing a population level understanding of effects. To do otherwise would be simply to restate for every health issue that there would be a wide range of individual

level responses based on behaviours, circumstances, genetics, chance etc. Such conclusions would have limited value.

- 4.1.10 Guidance (IEMA, 2022b); (IEMA, 2022a) and public health consensus (Cave et al., 2020); (Cave et al., 2021) is clear that a population health approach should be taken, however it is informative to explore the alternative.
- 4.1.11 A public health, population level, approach is distinct from some other EIA specialism methods, such as air quality and noise. Such assessments identify individual receptors, such as dwellings, in order to quantify the magnitude of effects at indicative locations. Such receptor level assessments can help in the characterisation of the magnitude of the population health effects, e.g. by broadly indicating population extent. However, to accurately conclude on health outcomes at individual receptor locations would require receptor level sensitivity data, e.g. individual medical histories. There are ethical considerations, and laws, that restrict access to individual medical histories and the publication of any subsequent, patient identifiable, conclusions.
- 4.1.12 To take a health assessment to an individual receptor level, whilst possible, would be a large and lengthy collaboration of specialisms, including from the NHS due to the sensitive nature of data. This would have substantial time and cost implications, likely exceeding the costs of most development projects. For a given development project, the output would likely be a demonstration of small changes in individual's risk factors, with high margins of error. Such data would also need to be aggregated and anonymised to inform a planning decision. This brings us back, the long way round, to a population health conclusion. It would rarely be proportionate for EIA to undertake such an individual level analysis.
- 4.1.13 By contrast there are anonymised population level statistics on relevant sensitivities. These allow a proportionate means of analysis to reach population level conclusions.
- 4.1.14 It is also worth noting that population level conclusions can also be more accurate. Both individual and population level analysis consider the change in 'risk factors' that affect health outcomes. This is a statement about how the project affects the probability of a change in health outcomes. In public health epidemiology this is termed 'relative risk'. Being a prospective assessment (before the event), EIA analysis is not able to state with certainty that such a change in health outcomes will in fact occur in a given individual. Such predictions can, however, be relatively accurate across a population, particularly where vulnerability is taken into account. At the individual level the uncertainties are higher.
- 4.1.15 My view, supported by consensus from public health and impact assessment publications, is that a project can respond to effects that are limited to the level of individuals, or small groups of individuals, through mitigation, including avoiding and reducing effects, or compensation as a last resort. However, to provide actionable information to decision makers, significance conclusions should be on the basis of whether or not there are likely to be population level effects, including sub-population analysis in relation to inequalities. This was the approach taken in the Health Assessment.
- 4.1.16 Notwithstanding the points made above advocating a population level approach, consistency in whatever method is adopted is important. If the view is advanced by Rule 6 or third parties that there are significant health effects on the basis of a very small minority of individuals within a population experiencing adverse effects, then it is only appropriate to take a consistent approach with beneficial effects.
- 4.1.17 For example, if the significant adverse effects are claimed based on the individuals who may be particularly sensitive within the population affected by the change, then a consistent approach should be taken in relation to those who would be particularly sensitive to the beneficial effects of the project.
- 4.1.18 If a consistent approach is taken in lowering the threshold for significance based on affected population size, this would need to be applied across the assessment. Although I do not take this

view, working this through by way of example shows: if the noise effects for vulnerable groups are considered to be moderate adverse, rather than minor, and therefore significant; then similarly the socio-economic benefits would be more significant. This would not change the overall balance of the conclusions presented in the ES.

- 4.1.19 To sum up this section. I am clear that the EIA Health Assessment considers the population health effects of a project. Public health and impact assessor consensus is that EIA takes a population health approach.
- 4.1.20 Even if effects to small numbers of individuals are given more weight; consistently applied, this should not change the balance of conclusions presented in the ES.

The context of vulnerable individuals and groups have been accounted for within the Health Assessment

- 4.1.21 Paragraphs 5.4 and 5.7 to 5.9 of the IEMA guidance (Pyper et al., 2022b) (CD 3.8.2) state:

“Within a defined population, individuals will range in level of sensitivity due to a series of factors such as age, socio-economic deprivation and pre-existing health conditions. Some groups of individuals may be particularly vulnerable to changes in biophysical and socio-economic factors (adversely or beneficially) whereby they could experience differential or disproportionate effects when compared to the general population. ...

The role of determining EIA levels of effect on health (including identifying significant effects) is therefore not to set a threshold of ‘no harm’ from development, but to show where, at a population or sub-population level, the harm should weigh strongly in the balance alongside the development’s benefits for health and other outcomes.

To provide actionable information to decisionmakers, significance conclusions should be on the basis of whether or not there are likely to be population-level effects, both positive and negative.”

- 4.1.22 The Health Assessment has considered effects to both the general population and the vulnerable sub-populations, including close to the Airport. It is common ground between LBN and LCY that there would not be significant health effects arising for this population, as reported in Chapter 12 of the ES (CD1.19). In relation to the Health Assessment of noise impacts, ES Chapter 12 discusses vulnerable groups at paragraphs 12.9.10; 12.9.19 to 12.9.21; 12.9.44; and 12.20.2 (CD1.19).

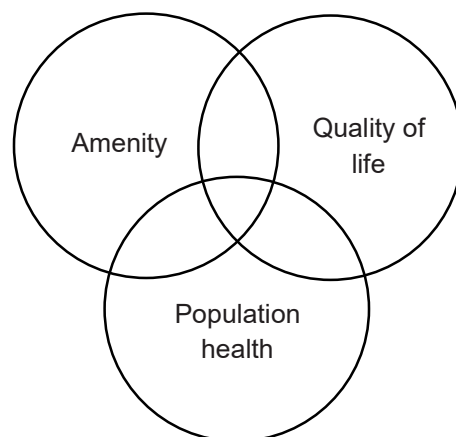
The context of health and associated effects to quality of life have been taken into account by the population health conclusions

- 4.1.23 As noted in section 3.2 above, the national policy wording around noise and health relates to ‘health and quality of life’ Noise Policy Statement for England (CD3.7.2) and the Overarching Aviation Noise Policy, March 2023 (CD3.5.8). Both ‘health’ and ‘quality of life’ have a bearing on ‘amenity’, for example the Aviation Policy Framework (HM Government, 2013) (CD3.5.1) paragraph 3.3 states “[The Government] want to strike a fair balance between the negative impacts of noise (on health, amenity (quality of life) and productivity) and the positive economic impacts of flights”. Whilst there is overlap, health, quality of life and amenity are also distinct and distinguishable concepts.
- 4.1.24 ‘Amenity’ is a key term within RFR 1. The Oxford English Dictionary defines amenity as either:
- “a desirable or useful feature or facility of a building or place e.g. the property is situated in a convenient location, close to all local amenities”; or

- “the pleasantness or attractiveness of a place e.g. developments which would clash with amenity”.

- 4.1.25 In both cases the meaning is linked to an attribute of the built environment. The first is related to the objective utility or value of a built environment feature; the second is related to people’s subjective experience of a place. The second definition is considered the most relevant to RFR 1. This reflects that the first definition is typically used to describe built environment features other than dwellings (such as benches or play areas) and the RFR has specifically stated that it relates to ‘residential amenity of nearby residential properties’. People’s subjective experience of place can reasonably be inferred to have a degree of influence on their wellbeing.
- 4.1.26 ‘**Quality of life**’ is a linked term to amenity in the Aviation Policy Framework (HM Government, 2013) (CD3.5.1).
- 4.1.27 The Oxford English Dictionary defines quality of life as: “*the standard of health, comfort and happiness experienced by an individual or group*”. There is therefore a health component, but that is not the totality of quality of life as a concept, though comfort and happiness may also reasonably be inferred to have a degree of influence on people’s wellbeing.
- 4.1.28 ‘Quality of life’ is considered in the IEMA 2022 Guidance on Health in EIA (IEMA, 2022b) to be part of the hierarchy of health severity which informs health magnitude. “*Whilst there is not a rigid hierarchy of health severity, changes in mortality (i.e., death) indicate a higher magnitude than changes in only well-being or quality-of-life (less severe).*” (CD3.8.2 paragraph 8.23).
- 4.1.29 ‘**Health**’ is defined by the World Health Organization as a “*state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity*”. Health thus has various wellbeing components, which were accounted for in the health assessment.

Figure 4-1: Conceptualisation of overlapping concepts



- 4.1.30 Figure 4-1 is for illustrative purposes and reflects my professional opinion on the relationships.
- 4.1.31 There is agreement with LBN that there is not a population health component to RFR 1, which leave the amenity issues as around “pleasantness or attractiveness” and not effects of greater severity. I.e. the issue does not relate to mental health and wellbeing of the population near the Airport.
- 4.1.32 Whilst not every individual health effect can be full anticipated, the very great majority of these will have been taken into account through the consideration of effects to both the general population and vulnerable groups within the Health Assessment. The potential for adverse effects to a very few individuals is not ruled out, but are very unlikely to relate to high severity health outcomes, i.e. mortality, given the predicted exposures, existing airport context and that greater noise events

occur on other days. It is also established within guidance, as explained earlier in this section, that such individual level effects are not the basis for reaching conclusions on EIA Human Health effects, which is the technical assessment intended to inform the planning process.

- 4.1.33 In addition to their being a ‘wellbeing’ related health component to amenity that has been accounted for by the Health Assessment; there is also a health component to quality of life which has been accounted for within the Health Assessment. Table 7.2 of the IEMA Guidance (Pyper et al., 2022b), which is reproduced in the Health Assessment method (Table 12.3 (CD3.8.2), associates:
- ‘low’ magnitude of effects with a “moderate change in quality-of-life”; and
 - ‘negligible’ magnitude of effect with “minor change in quality-of-life”.
- 4.1.34 The Health Assessment of noise (ES Chapter 12 section 12.9 (CD1.19) and of use of open space (ES Chapter 12 section 12.10 (CD1.19) both conclude there would be ‘low’ magnitude of impact, as set out in Table 12.13 of ES Chapter 12 (CD1.19).
- 4.1.35 For weekend daytime noise the Health Assessment is explicit that “*Any health effect due to this change in risk factors is likely limited to a large minority of the study area population in relation to effects between LOAEL and SOAEL, with quality-of-life outcomes dominating.... The change in daytime noise is considered to be of low magnitude for public health.” (ES Chapter 12 paragraph 12.9.36 (CD1.19)).*
- 4.1.36 The conclusions of Chapter 12 are common ground between LBN and LCY (SoCG dated 23 October 2023 section 13 CD11.2).
- 4.1.37 To summarise this section, the concepts of health, quality of life and amenity overlap. The Health Assessment has accounted for wellbeing influences on quality of life and amenity that could adversely affect the health of the population near the Airport. It is common ground that the adverse population health effects would not be significant. The exclusion of population health as an issue limits the extent to which there could be a lack of policy compliance on health and quality of life. It also limits the extent to which effects to residential amenity could be significant for human receptors.

4.2 Overview of the 2015 CADP1 Health Impact Assessment (HIA)

- 4.2.1 The findings associated with the original CADP1 application and, in particular, the 2015 HIA (CD2.1.4) are a relevant reference point for this Appeal. The following bullets summarise the 2015 HIA’s scope and key conclusions.
- 4.2.2 The 2015 HIA assessed:
- Changes in noise exposure, finding the change: “*[in air noise] will not impact upon sleep disturbance [and is] not of a level to quantify any impact upon academic performance [; ground noise levels] “are not of a level to quantify any measurable adverse health outcome” [; and traffic noise is] “not significant”*”;
 - Direct, indirect and induced income employment opportunities, finding “*significant socio-economic health benefits at a regional and local level*”;
 - Changes in local road transport nature and flow rates, finding the change “*is not predicted to impact upon local road capacity, materially impact upon road safety or adversely impact upon community severance*”; and
 - Changes to local air quality (emissions to air), finding “*the relative change in concentration exposure are not of an order to quantify any meaningful adverse health outcome*”.

- 4.2.3 The 2015 HIA was undertaken prior to the updated EIA Regulations requiring consideration of the likely significant effects to human health as part of an ES; however, it fulfilled an equivalent planning role. The 2015 HIA concluded that:
- *“CADP1 does not constitute a significant risk to local community health, on the basis that all regulatory environmental standards set to protect health are predicted to be achieved, and the relative effects of the predicted minor changes in air quality, noise and transport upon existing burdens of health are not sufficient to quantify any significant adverse health outcome.*
 - *Moreover, when accounting for the underlying factors defining local influences on poor health in and surrounding the area (largely socio-economic and lifestyle related), and the direct, indirect and induced socio-economic benefits from CADP1, coupled with the committed and ongoing community support and employment initiatives managed by the Airport to optimise local health benefit uptake, CADP1 is considered to represent a net health benefit.”*
- 4.2.4 These conclusions were not disputed by the Council or the inspector / Secretaries of State in the final CADP1 appeal decision.

4.3 Overview of the CADP1 Section 73 Application Health Assessment

- 4.3.1 This section provides an overview of Volume 1: Environmental Statement Chapter 12: Public Health and well-being (CD1.19).

Scope

- 4.3.2 The Health Assessment scope covers relevant determinants of health and population groups. The scope includes wider determinants of health, i.e. not just bio-physical determinants such as air quality and noise, but also behavioural, social, economic and institutional determinants. This is in line with guidance (CD3.8.3) (IEMA, 2022a) and good practice (CD3.8.11) (World Health Organisation, 2022).
- 4.3.3 Whilst many determinants of health may be affected to some degree, guidance is clear that the assessment must be proportionate. This means *“focusing the assessment to likely and potentially significant population health effects of the project.”* (IEMA, 2022a) paragraph 1.10 (CD3.8.3).
- 4.3.4 The Health Assessment covers the following health determinants:
- Health related behaviours: Use of open space;
 - Social environment: Community Identity; and Transport;
 - Economic environment: Good quality employment; and Training Opportunities;
 - Bio-physical environment: Noise; Air quality; Ultra Fine Particulates; and Climate Change; and
 - Institutional and built environment: NHS Routine Service Planning.
- 4.3.5 The scope for the Health Assessment was discussed with the LBN’s Deputy Director of Public Health and LBN’s appointed consultants on 14th and 20th September 2022.
- 4.3.6 The approach to scoping the Health Assessment is considered appropriate. This is confirmed in the LUC ES Review (CD4.5.10) paragraphs 11.1 to 11.3. The assessment scope is also common ground between LBN and LCY (SoCG dated 23 October 2023 between LBN and LCY section 13.0, CD11.2).
- 4.3.7 Table 15.1 of the LUC ES Review (CD4.5.10) includes no technical matters relating to the Health Assessment scope that are listed as unresolved or requiring further clarification.

- 4.3.8 This proof of evidence focuses on the determinants raised by the RFR 1 and in the Statements of Case of other parties.
- 4.3.9 In relation to any matters outside of the scope of the Health Assessment, the guidance cautions that *“There can be a temptation to scope in a long list of wider health determinants to avoid the risk of later challenge. This would be contrary to proportionality and could be detrimental to delivering an effective assessment of the likely significant health effects.”* (IEMA, 2022a) paragraph 3.4 (CD3.8.3).
- 4.3.10 Guidance confirms that *“The role of determining EIA levels of effect on health (including identifying significant effects) is therefore not to set a threshold of ‘no harm’ from development, but to show where, at a population or sub-population level, the harm should weigh strongly in the balance alongside the development’s benefits for health and other outcomes”.* (IEMA, 2022b) paragraph 5.8 (CD3.8.2).
- 4.3.11 On this basis I consider the Health Assessment scope appropriate and agreed with LBN.

Baseline

- 4.3.12 The Health Assessment baseline has regard to relevant local vulnerabilities, noting that different communities have varying susceptibilities to health impacts and benefits as a result of social and demographic structure, behaviour and relative economic circumstances.
- 4.3.13 The baseline focuses on small area data (ward level). The OHID Government public health database has been used to consider the health profile of the wards surrounding the Airport. The baseline shows that across a range of health outcomes the population around the Airport has worse outcomes compared to the averages for England (See ES Table 12.7, CD1.19).
- 4.3.14 ES Appendix 12.3 (CD1.54) focuses in on sub-set of wards, selected to reflect a geographic distribution and the areas with the highest deprivation.
- Royal Docks, E05000491 (the Airport site);
 - Custom House, E05000479 (an area of higher deprivation to the north and west); and
 - Abbey Wood, E05000214 (an area of higher deprivation to the south and east).
- 4.3.15 ES paragraph 12.4.7 notes: *“Whilst indicators for the population closest to the airport (Royal Docks ward) suggest lower sensitivity across most measures; in the neighbouring deprived wards, particularly Custom House but also Abbey Wood, higher sensitivity is evident. The higher sensitivity has been used as the basis for assessment.”*
- 4.3.16 Notwithstanding that high population sensitivity has been assumed within the assessment across the Health Assessment, it is noted that Appendix 12.3 (CD1.54) paragraph 1.1.9 (referring to the table below it) finds that *“mental health indicators perform significantly better than or similar to the national average across all localities making up the local study area”.* This includes for the three wards around the Airport, including those with high deprivation. This is relevant as the RFR 1 discussion of ‘residential amenity’ potentially has links to mental health and quality of life wellbeing outcomes. The baseline indicators relevant to such outcomes suggest that the population around the Airport does not have elevated vulnerability in relation to mental health outcomes. This makes the Health Assessment of noise impacts particularly conservative for mental health outcomes, as it has assumed high sensitivity within the affected population.
- 4.3.17 On the issue of air quality, the baseline (ES paragraph 12.4.11, CD1.19) acknowledges that *“Newham and Tower Hamlets have particularly high rates of mortality attributable to air quality. Baseline sensitivity on this issue is taken into account in the assessment”.*
- 4.3.18 The baseline of the Health Assessment is considered appropriate. This is confirmed in the LUC ES Review (CD4.5.10) paragraphs 11.4 to 11.7. *“The approach to defining the existing baseline which*

includes details of published demographics, socio-economic and public health and healthcare capacity data is considered appropriate.”

4.3.19 Table 15.1 of the LUC ES Review (CD4.5.10) includes no technical matters relating to the Health Assessment baseline that are listed as unresolved or requiring further clarification.

4.3.20 On this basis I consider the Health Assessment baseline appropriate and agreed with LBN.

Receptors

4.3.21 The Health Assessment sets out relevant population groups, including vulnerable sub-populations. As noted in guidance *“For health in EIA, population groups are the sensitive receptors, the health outcomes of which are considered.”* (IEMA, 2022a) paragraph 7.8 (CD3.8.3).

4.3.22 Methodological detail around the groups selected is set out in ES Appendix 12.2 paragraphs 1.1.28 to 1.1.37 (CD1.53). The following population groups have been considered:

- The ‘general population’ including residents, visitors, workers, service providers, and service users; and
- The ‘vulnerable group population’, including
 - Young age: Children and young people (including pregnant women and unborn children);
 - Old age: Older people (particularly frail elderly);
 - Low income: People on low income, who are economically inactive or unemployed/workless;
 - Poor health: People with existing poor health; those with existing long-term physical or mental health conditions or disability that substantially affects their ability to carry out normal day-to-day activities;
 - Social disadvantage: People who suffer discrimination or other social disadvantage, including relevant protected characteristics under the Equality Act 2010 or groups who may experience low social status or social isolation for other reasons; and
 - Access and geographical factors: People experiencing barriers in access to services, amenities and facilities and people living in areas known to exhibit high deprivation or poor economic and/or health indicators.

4.3.23 Specifically on noise, relevant to RFR 1, ES Chapter 12 paragraph 12.9.19 (CD1.19) confirms that the vulnerable sub-population taken into account by the assessment includes:

- children and young people including for educational disturbance;
- older people who may spend more time in affected dwellings;
- people living in deprivation, including those on low incomes may have fewer resources to adapt, e.g. seek respite or install insulation; furthermore, those who are economically inactive may spend more time in affected dwellings;
- people with existing poor physical and mental health may spend more time in affected dwellings; and
- people for whom close proximity to project change increases sensitivity.

4.3.24 Similar detailed statements are made in Chapter 12 for other determinants of health.

4.3.25 Guidance confirms that *“To provide actionable information to decisionmakers, significance conclusions should be on the basis of whether or not there are likely to be population-level effects, both positive and negative”*. (IEMA, 2022b) paragraph 5.9 (CD3.8.2).

- 4.3.26 The receptors used in the Health Assessment are considered appropriate. This is confirmed in the LUC ES Review (CD4.5.10) paragraph 11.8. *"[Chapter 12 of the ES] outlines sensitive receptors considered in the assessment... This is considered appropriate."*
- 4.3.27 Table 15.1 of the LUC ES Review (CD4.5.10) includes no technical matters relating to the Health Assessment receptors that are listed as unresolved or requiring further clarification.
- 4.3.28 OR paragraph 282 (CD4.3.1) confirms that officers have reviewed the receptors of the Health Assessment and have not raised any concerns: *"This [Public Health and Wellbeing] chapter assesses the population health effects resulting from the proposed development. This includes physical and mental health outcomes, assesses the potential for health inequalities to vulnerable groups and considers opportunities to improve population health"*.
- 4.3.29 On this basis I consider the Health Assessment receptors appropriate and agreed with LBN.

Methods

- 4.3.30 As discussed, the methods for the Health Assessment follow relevant guidance (IEMA, 2022a, CD3.8.3);(IEMA, 2022b, CD3.8.7) and were discussed with LBN's Deputy Director of Public Health and LBN's appointed consultants on 14th and 20th September 2022.
- 4.3.31 The methods of the Health Assessment are considered appropriate. This is confirmed in the LUC ES Review (CD4.5.10) paragraph 11.9. *"Section 12.3 and Appendix 12.2 set out the methodology used to inform the health and wellbeing assessment. ... The significance criteria applied to potential likely effects are also clearly defined. This is considered appropriate"*.
- 4.3.32 Table 15.1 of the LUC ES Review (CD4.5.10) includes no technical matters relating to the Health Assessment methods that are listed as unresolved or requiring further clarification.
- 4.3.33 On this basis I consider the Health Assessment methods appropriate and agreed with LBN.

Mitigation and monitoring

- 4.3.34 The LUC ES Review (CD4.5.10) paragraph 11.3 confirms it is appropriate that the Health Assessment uses residual effect conclusions of other assessments (i.e. effects after mitigation described in those chapters has been taken into account).
- 4.3.35 ES Chapter 12 section 12.20 (CD1.19) sets out further mitigation and monitoring proposed by the Health Assessment, which would be secured through condition. The section is set out by determinant of health. In summary noise related measures relevant to the Appeal are:
- Targeted support to promote uptake of LCY's Sound Insulation Scheme amongst vulnerable groups. Monitoring results will be shared with the relevant public health teams. Further targeting may include tenants being eligible to initiate the Sound Insulation Scheme application (the implementation of which would still be subject to landlord approval), as well as support where English is not a first language and for those with low literacy.
 - The public health opportunities for offsetting increased disturbance at public open spaces has been considered. It is proposed that part of the Community Fund to be used as per LBN Policy SP2 to provide *"new or improved inclusive open space and sports facilities, including good quality, secure and stimulating play space and informal recreation provision for young people and accessible natural greenspace and bluespace to encourage greater participation in physical activity"*.
- 4.3.36 Monitoring to confirm socioeconomic benefits for vulnerable groups is also proposed (with further measures set out in ES Chapter 7 Socio-economics (CD1.14)):

- Monitoring of the proportion of local people with long-term unemployment, high job instability or low income characteristics who enter good quality stable employment with LCY to confirm the benefit and further tailor the targeting of local vulnerable groups.
- Monitoring of the proportion of young people not in education, employment or training (NEETs) taking up, and completing, training opportunities with LCY could be undertaken to confirm the benefit and further tailor the targeting of local vulnerable groups.

4.3.37 Monitoring in relation to ultra-fine particulates is considered appropriate:

- The appropriate response is for public health to maintain a watching brief on UFP as a topic area. The monitoring of UFPs is therefore supported, including correlating results with use of sustainable aviation fuel (SAF) at the Airport and as appropriate future hydrogen and/or electric aircraft transition. SAF use may reduce UFPs due to its very low sulphur content, though the relationship requires investigation.

4.3.38 OR paragraph 284 (CD4.3.1) confirms that additional information on UFPs should be addressed through a monitoring condition (see linked points in OR paragraphs 127 and 284).

4.3.39 Table 15.1 of the LUC ES Review (CD4.5.10) includes no other technical matters relating to health mitigation or monitoring that are listed as unresolved or requiring further clarification.

4.3.40 On this basis I consider the Health Assessment mitigation and monitoring appropriate and agreed with LBN.

Health assessment conclusions

4.3.41 ES Chapter 12 section 12.21 (CD1.19) sets out the residual effect conclusions. Relevant to the Appeal, the population Health Assessment conclusions, including taking account of potential inequalities to vulnerable sub-populations close to the Airport, are:

- Noise (including mental health and quality of life wellbeing effects): **Minor adverse (not significant).**
- Physical activity & leisure (including amenity of public parks): **Minor adverse (not significant).**
- Air Quality (including ultra-fine particulates): **Minor adverse (not significant).**
- Good Quality Employment: **Moderate beneficial (significant).**
- Training Opportunities: **Moderate beneficial (significant).**

4.3.42 In relation to the ES Chapter 12 Health Assessment LBN state *“the conclusion that the impacts on public health are not significant is generally agreed with...”* OR paragraph 282-284 (CD4.3.1).

4.3.43 Based on there being only one technical issue requiring clarification listed in Table 15.1 of the LUC ES Review (CD4.5.10), the word ‘generally’ can reasonably be inferred to relate to confirming appropriate monitoring in relation to ultra-fine particulates (“UFPs”). This is an issue which is referenced in OR paragraph 284 as resolved CD4.3.1 *“LBN’s consultants note that information on UFPs is lacking and this should be addressed with an appropriate monitoring condition.”*

4.3.44 The OR is silent as to whether the beneficial health effects are also agreed with, but no indication of disagreement is made. The basis for concluding that there are significant beneficial effect conclusions are set out in ES Chapter 12 sections 12.13 and 12.14 (CD1.19).

4.3.45 Table 15.1 of the LUC ES Review (CD4.5.10) includes no technical matters relating to conclusions for socio-economic health benefits that are listed as unresolved or requiring further clarification.

4.3.46 On this basis I consider the Health Assessment conclusions that there are not significant adverse population health effects associated with air quality and noise to be agreed with LBN.

- 4.3.47 I am strongly of the view that the Proposed Development includes important public health benefits from the committed employment and training opportunities, including that these are tailored to be targeted locally and to vulnerable groups.
- 4.3.48 These are a significant beneficial population health effect that should weigh in the balance:
- not only, in relation to national noise policy (CD3.7.2);
 - but also, more broadly in the wider planning balance.
- 4.3.49 The beneficial Health Assessment conclusions are not overstated, they are moderate, not major beneficial effects. They are evidenced and linked to monitoring measures that would confirm the benefit or provide further tailoring to support achieving the benefit.

Faster and Slower Growth Scenarios

- 4.3.50 The assessment considered the two sensitivity tests, as set out in Chapters 3 and 4 of the ES (CD1.10 and CD1.11), which reflect growth in passengers being faster or slower than in the core DC Scenario.
- Under the Faster Growth Scenario 9mppa is forecast to be reached in 2029.
 - Under the Slower Growth Scenario 9mppa is forecast to be reached in 2033.
- 4.3.51 The Health Assessment has considered if there would be new or materially different conclusions when comparing the Do Minimum (DM) Scenario to:
- either the core Development Case (DC) Scenario (the main assessment),
 - or the Faster Growth and Slower Growth Scenarios (the sensitivity test).
- 4.3.52 The Health Assessment concluded that there would not be new or materially different conclusions, see ES Chapter 12 section 12.21 (CD1.19).

Cumulative and in-combination effects

- 4.3.53 ES Chapter 12 section 12.22 (CD1.19) considers in-combination effects, i.e. where the same population may be affected by more than one type of health effect due to the Proposed Amendments. The assessment concludes that:
- Adverse effects, even in combination, would not be greater than minor adverse (not significant).
 - Beneficial effects, even in combination, would not be greater than moderate beneficial (significant).
- 4.3.54 ES Chapter 12 section 12.23 (CD1.19) considers cumulative effects, i.e. where the same population may be affected by more than one project. The assessment concludes that no new significant adverse effects on population health are expected due to cumulative effects with other projects. Significant beneficial effects for population health would remain and may be extended.

Overall

- 4.3.55 A robust Health Assessment has been undertaken. LBN do not dispute the scope, baseline, receptors, methods, mitigation, monitoring or sensitivity tests. LNB agree that there are not significant adverse population health effects. LBN are silent on the significant beneficial effects.
- 4.3.56 OR paragraph 292 - 295 (pdf page 82/84) (CD4.3.1) endorses the quality of the ES generally “...no further information was required to assess the ES. The ES was considered to provide a thorough and robust assessment of the baseline conditions and enabled a rigorous assessment of the likely significant environmental effects of the development.” Implicitly this is an endorsement of

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the Health Assessment, which supports the position that there is no health aspect of the amenity reason for refusal.

5 RESPONSE TO RFR 1

5.1 Health analysis relevant to RFR1

- 5.1.1 The conclusions of ES Chapter 12 are common ground. It is agreed that public health effects are not a reason for refusal (SoCG dated 23 October 2023 between LBN and LCY section 13.0 - CD11.2).
- 5.1.2 The agreement with LBN notes that the Health Assessment considered, not only the overall noise effects of the Proposed Amendments, but also assessed the effects to night-time noise and weekend daytime noise.
- 5.1.3 The Health Assessment identified minor adverse (not significant) population health effects for the night-time and weekend daytime noise changes of the Proposed Amendments (CD1.19, paragraphs 12.9.31 to 12.9.46 and paragraph 12.21.1). This conclusion includes considering vulnerable groups.
- 5.1.4 This conclusion is not disputed by LBN in the Decision Notice (CD4.4.1) or the OR (CD4.3.1) or by their consultants in the LUC ES Review (CD4.5.10).
- 5.1.5 The only points of disagreement with LBN that relate to health are in relation to the interpretation of noise policy. The point of policy interpretation is covered in the evidence of Richard Greer (APP/2) and Sean Bashforth (APP/3). There is agreement with LBN that the additional morning and Saturday flights, and reduction of the existing Saturday curfew do not give rise to significant adverse health effects for the population living near the Airport.
- 5.1.6 The technical basis that there are not significant adverse population health effects is set out in ES Chapter 12 (CD1.19) and the Overview provided in section 4.3.
- 5.1.7 The implication of this agreement with LBN is that it helps to narrow the issues.
- 5.1.8 It is also implicit that, as there is agreement that there are not significant population health effects, the severity of the effect on residential amenity is of a lesser order, than it might otherwise have been, had significant public health effects been expected.
- 5.1.9 Consequently, the weight that should be attached to the effect on residential amenity is also of a lesser order, than if significant public health effects were expected.
- 5.1.10 This point is relevant to the planning balance, as an adverse effect on residential amenity must have an inherent ceiling if it is not so great as to be associated with a significant public health effect.
- 5.1.11 By contrast the socio-economic beneficial effects of the Proposed Amendments are agreed as significant for population health. Implicitly this means that they must carry more weight than the adverse effects, which are agreed to be not significant.
- 5.1.12 This is particularly the case as the Health Assessment uses an agreed methodology that assesses beneficial and adverse effects on the same basis.
- 5.1.13 The not significant adverse effects and significant beneficial effects discussed in the Health Assessment are therefore directly comparable.
- 5.1.14 IEMA Guidance confirms this relative weighting. It states that the *“EIA process uses the term ‘significance’ to describe the weight that should be placed on an issue during a decision, i.e., the extent to which it is ‘material’ to the planning decision.”* (Paragraph 2.4).
- 5.1.15 IEMA Guidance goes on to explain that: *“What this ‘weight’ means and how it is determined differs between EIA topic areas, such as air quality, biodiversity and health.”* (Paragraph 2.4).
- 5.1.16 However, the IEMA Guidance confirms that within the Health Assessment each significance conclusion is: “comparable, so that those tasked with determining the project application, can

decide the overall weight to give to the health effects of the project and determine the relative influence different health determinants have:...” (Paragraph 6.17).

- 5.1.17 The weight of the health conclusions is discussed within Sean Bashforth’s evidence (APP/3) on the planning balance.

5.2 Health Policy Analysis relevant to RFR 1

- 5.2.1 RFR 1 states that the effects to residential amenity “...would be contrary to policies D13 and T8 of The London Plan (2021) and policies SP2 and SP8 of the Newham Local Plan (2018).”
- 5.2.2 This section examines these cited policies and identifies how the health elements within them have been appropriately addressed. This helps to narrow the issues within these policy tests by confirming that it is note the health elements that underpin RFR 1.

Policy D13 ‘Agent of Change’ of The London Plan (2021) (CD3.3.1)

- 5.2.3 Policy D13 of the London Plan states that:

“Development should be designed to ensure that established noise ... generating uses remain viable and can continue or grow without unreasonable restrictions being placed on them. ... New noise ... generating development proposed close to residential and other noise-sensitive uses should put in place measures to mitigate and manage any noise impacts for neighbouring residents and businesses.”

- 5.2.4 Under this policy residential development around the Airport should have had regard to the existence of the current airport and its activities, for example in terms of sound insulation of buildings at their time of construction. Policy D13 does not however reference health specifically. This policy is not discussed further here but is covered in the evidence of Sean Bashforth (APP/3).

Policy T8 ‘Aviation’ of The London Plan (2021) (CD3.3.1)

- 5.2.5 Policy T8 of the London Plan states that:

“The Mayor supports the role of the airports serving London in enhancing the city’s spatial growth... The environmental and health impacts of aviation must be fully acknowledged ... Development proposals should make better use of existing airport capacity... Development proposals ... should only be supported if they would not lead to additional environmental harm or negative effects on health.” [Emphasis added].

- 5.2.6 The potential for significant population health effects, beneficial and adverse, have been fully acknowledged in ES Chapter 12 (CD1.19). The Health Assessment concludes there would not be significant adverse effects on population health and that there would be significant beneficial population health effects.
- 5.2.7 The conclusions that there would not be significant adverse effects on population health, i.e. ‘negative effects on health’, is not disputed by LBN in the Decision Notice (CD4.4.1), OR (CD4.3.1) or by their consultants in the LUC ES Review (CD4.5.10).
- 5.2.8 If the phrasing ‘negative effects on health’ is also taken to relate to non-significant effects or individual level health effects, then plausibly every development proposal (of whatever nature and scale) could fail this policy test. This point is made in (IEMA, 2022b) (CD3.8.2)
- Paragraph 5.8 “*The role of determining EIA levels of effect on health (including identifying significant effects) is therefore not to set a threshold of ‘no harm’ from development, but to*

show where, at a population or sub-population level, the harm should weigh strongly in the balance alongside the development's benefits for health and other outcomes".

- Paragraph 5.2 "EIA analysis at the level of individuals would likely mean that all determinants of health conclusions, positive or negative, would be significant on all projects because of the effects to some particularly sensitive individuals. This would be contrary to supporting decision-makers in identifying the material issues. Assessment of EIA significance at the level of individuals is not proportionate".

5.2.9 It is therefore my professional judgment that that the Proposed Development is in accordance with the health aspects of Policy T8. It is my view that health issues are not, therefore, the basis for citing the policy as part of the reason for refusal.

Policy SP2 'Healthy Neighbourhoods' of the Newham Local Plan (2018) (CD3.4.1)

5.2.10 Policy SP2 of the Newham Local Plan states that:

"Development proposals which address the following strategic principles and spatial strategy, and technical criteria will be supported:

"1. Strategic Principles and Spatial Strategy: "The Council ... recognises the role of planning in [promoting healthy lifestyles and reducing health inequalities] ... through the creation of healthy neighbourhoods and places. In Newham, this will be achieved through responding to the following contributors to health and well-being: ... The need to improve employment levels and reduce poverty, whilst attending to the environmental impacts of economic development including ... noise...; [and] The need for ... improved inclusive open space ... to encourage greater participation in physical activity and provide relief from urban intensity." [Emphasis added].

"2. Design and technical criteria: The requirement for major development proposals to be accompanied by a health impact assessment detailing how they respond to the above contributors to health and well-being, including details of ongoing management or mitigation of issues where necessary." [Emphasis added].

5.2.11 With regards to Policy SP2 (1), the Health Assessment (CD1.19) shows that the Proposed Amendments are consistent with supporting healthy neighbourhoods under the relevant elements of Policy SP2, namely providing significant employment benefits, attends to noise impacts appropriately and improving open space. Specifically:

- There would be moderate beneficial (significant) population health effects (ES Chapter 12 sections 12.13, 12.14, 12.20 and 12.21). LUC ES Review Table 15.1 includes no technical matters relating to socio-economics and health that are listed as unresolved or requiring further clarification. LBN has not disagreed with the Health Assessment conclusion that the Proposed Development would have **significant socio-economic benefits for population health**.
- Population health and wellbeing effects of noise are minor adverse (not significant), as set out in ES Chapter 12 section 12.9 (Environmental Effects: Noise) and section 12.10 (Healthy Lifestyles: Use of Open Space), the latter in relation to the population health effects associated with day-time amenity of public open spaces. Mitigation, including relevant to noise, is covered in section 12.20; and residual effects are set out in section 12.21. Table 15.1 of the LUC ES Review includes no technical matters relating to noise and health that are listed as unresolved or requiring further clarification. LBN has not disagreed with the Health Assessment conclusion that the Proposed Development would have **no significant health effects due to noise**.

- In relation to **improving open space**, Health Assessment paragraph 12.20.3 states that *“It is proposed that part of the Community Fund be used as per LBN Policy SP2 to provide “new or improved inclusive open space and sports facilities, including good quality, secure and stimulating play space and informal recreation provision for young people and accessible natural greenspace and bluespace to encourage greater participation in physical activity”.*

- 5.2.12 With regard to Policy SP2 (2), the Section 73 Application has been accompanied by an appropriate health impact assessment. As explained by Government guidance (Public Health England, 2020) (CD3.8.1 pages 28 and 48) HIA can be integrated into the EIA process. The guidance states: *“First, establish whether the project is subject to EIA. If yes, follow health in EIA process.”* This is an EIA project and the EIA process of including a health chapter has been followed.
- 5.2.13 It is therefore my professional judgment that that the Proposed Development is in accordance with the health-related references within Policy SP2. It is my view, therefore, that references to a health impact assessment and the issues it covers are not the basis for citing the policy as part of the reason for refusal.

Policy SP8 ‘Ensuring Neighbourly Development’ of the Newham Local Plan (2018)

- 5.2.14 Policy SP8 of the Newham Local Plan states that:
- “Proposals that address the following Strategic Principles, Spatial Strategy and Design, Management and Technical criteria will be supported: ... where possible enhance ... public open space ...; Encourage the use of sustainable transport ...; [and] Avoid unacceptable exposure to ... noise, disturbance, ... and other amenity or health impacting pollutants in accordance with policy SP2” [Emphasis added].*
- 5.2.15 With regards to Policy SP8, the ES Chapter 12 Health Assessment (CD1.19) shows that the Proposed Amendments:
- **are consistent with enhancing public open space** (as explained above in paragraph 5.2.11 third bullet);
 - **encourage sustainable transport** in relation to surface access, see ES Chapter 12 section 12.12 (Safe and Cohesive Communities: Transport); and
 - **avoid unacceptable (significant) population health effects due to noise** (as explained above in paragraph 5.2.11 second bullet). IEMA guidance paragraph 1.6 (IEMA, 2022b) (CD CD3.8.2 page 4) explains that ‘acceptability’ is part of determining significance. *“EIA significance is defined as informed expert judgement of the importance, desirability or acceptability of a change”.*
- 5.2.16 It is therefore my professional judgment that that the Proposed Development is in accordance with the health-related references within Policy SP8. It is my view, therefore, that Health Assessment issues are not the basis for citing the policy as part of the reason for refusal.

5.3 Beneficial health effects

- 5.3.1 In relation to the ES Chapter 12 Health Assessment, LBN state *“the conclusion that the impacts on public health are not significant is generally agreed with...”* in the OR, paragraph 282-284 (CD4.3.1). The OR is silent as to whether the beneficial health effects are also agreed with, but no indication of disagreement is made.

- 5.3.2 It is noted, with regard to technical advice received from LBN, no concerns or clarifications were raised on the health conclusions for socio-economic benefits in the LUC ES Review Table 15.1 (CD4.5.10).
- 5.3.3 Planning practice guidance (CD3.8.4) confirms: "*The local planning authority must take into account the information in the Environmental Statement, the responses to consultation and any other relevant information when determining a planning application*". DLUHC, Planning Practice Guidance: Environmental Impact Assessment, Paragraph 46 (CD3.2.2).
- 5.3.4 It is unclear what weight has been given, if any, to the beneficial health effects that are described in ES Chapter 12. It is my professional judgment that these health benefits should weigh strongly in the planning balance, which is discussed further in the Proof of Evidence of Sean Bashforth (APP/3).

6 RESPONSE TO ISSUES RAISED BY RULE 6 PARTY HACAN EAST

Statement of Case

- 6.1.1 HACAN East's SoC (CD10.3) makes two references to health, both of which are specifically on the narrow point of a precautionary approach being appropriate where there is uncertainty:
- Paragraph 4.1.5: *"It will also argue that, to the extent that there remains any uncertainty in the scientific data around the health impacts of extended exposure to unmitigated noise, the Inspector is required to adopt a precautionary approach."*
 - Paragraph 7.2: *"The Appeal Proposal will cause environmental harm and may adversely affect public health. It will result in a significant adverse noise impact for residents living in affected areas. A precautionary approach is required to be taken."*

A precautionary approach is inherent to the Health Assessment

- 6.1.2 The application of the precautionary principle in public health is explained by the World Health Organisation (World Health Organisation, 2004 – CD3.8.12). The publication explains that the precautionary principle is 'built-in' to public health; and in particular, the use of health impact assessment as a practical means of presenting conclusions on significance that take uncertainties into account.
- 6.1.3 In this case the health impact assessment (HIA) is set out in ES Chapter 12 CD1.19, which notes at paragraph 12.3.23: *"The approach taken ensures that HIA is embedded within the EIA in line with good practice."*
- 6.1.4 The WHO publication (World Health Organisation, 2004, CD3.8.12) finds:
- *"The [precautionary] principle states that in the case of serious or irreversible threats to the health of humans or the ecosystem, acknowledged scientific uncertainty should not be used as a reason to postpone preventive measures."* Page 1.
 - *"The concepts of precaution and prevention have always been at the heart of public health practice."* Page 3.
 - *"The precautionary principle encourages policy-makers and public health professionals to consider, in their approach to public health, how to account for growing complexity and uncertainty."* Page 3.
 - *"...together with related approaches such as health impact assessment, precaution provides a useful compass to guide public health decisions under uncertainty,".* Page 10
 - *"A centrepiece of precautionary assessment is environment and health assessment, which weighs the science of hazards and exposure. In this step, evidence of risk and uncertainty is examined to determine the possibility (and plausibility) of a significant health threat and the need for precautionary action."* Page 188.
- 6.1.5 ES Chapter 12 (CD1.19) sets out the likely (plausible) significant effects of the Proposed Development.

Uncertainty and effect significance are accounted for

- 6.1.6 The IEMA guidance (Pyper et al., 2022a) (CD3.8.3) paragraph 3.4 also articulates the precautionary principle:

“Where there are threats of serious damage to health, a lack of full scientific certainty should not be used as a reason for postponing measures to minimise this damage”.

- 6.1.7 Whether taking the WHO or IEMA definition, the precautionary principle includes a two-part test, both of which must be met. There must be:
- *“threats of serious damage to health”*; and
 - *“a lack of full scientific certainty”.*
- 6.1.8 It is accepted that there is a lack of full scientific certainty in relation to health and quality of life effects associated with aviation noise.
- 6.1.9 For example, Chapter 12 of the ES references the work of Clark et al. (Clark et al., 2020 – CD3.8.7) who look specifically at the evidence for environmental noise effects on health for the UK policy context. On the measure that aligns most closely to the national noise policy wording (i.e. health and quality of life) Clark et al. note at Table 7 that, for aircraft noise, the quality of evidence for self-reported ‘quality of life or health’ is “very low quality” and the level of effect is rated as “no effect”.
- 6.1.10 This uncertainty (very low quality of evidence) in the scientific literature reflects a paucity of studies. It also reflects that, research to date shows that aviation noise effects on quality of life and health do not have a large effect on health outcomes.
- 6.1.11 The findings are consistent with the WHO 2018 systematic review of this issue (Clark and Paunovic, 2018) that informed the WHO noise guidelines (WHO, 2018, CD3.7.6). In relation to quality of life, well-being and mental health the WHO noise guidelines summarise the evidence as: *“The evidence showed, however, no substantial effect of aircraft noise on self-reported quality of life or health”* (page 153 (pdf page 174) paragraph 3.2, CD3.7.6).
- 6.1.12 With regards to threats of serious damage to health (i.e. the potential for significant health effects), it has been established through the ES Chapter 12 Health Assessment (CD1.19) that this is not the case. This is common ground between LCY and LBN, whose public health team were appropriately consulted (SoCG dated 23 October 2023 between LBN and LCY section 13.0, CD11.2).
- 6.1.13 The conclusion that there would not be significant adverse health effects is the output of a technical assessment, not simply a point of view.
- 6.1.14 Guidance on the technical assessment of determining significance in EIA terms is provided by IEMA (IEMA, 2022a, CD3.8.3);(IEMA, 2022b, CD3.8.2). The guidance is the industry standard and represents a consensus between EIA practitioners and public health stakeholders. The guidance was developed with input from public health specialists familiar with EIA from the UK Health Security Agency (UKHSA) and Department of Health Office for Health Improvement and Disparities (OHID).
- 6.1.15 The guidance clarifies the basis of assessment, including scope and methods. These have been used in the Health Assessment. LBN agree with this basis of assessment, see LUC ES Review paragraph 11.9 (CD4.5.10) *“Section 12.3 and Appendix 12.2 set out the methodology used to inform the health and wellbeing assessment. ... This is considered appropriate”.* Agreement is confirmed in the final SoCG dated 23 October 2023 between LBN and LCY (CD11.2).
- 6.1.16 With regard to significance, the guidance (IEMA, 2022b) paragraph 1.6 states (CD3.8.2): *“For human health, [EIA significance] relates to whether the change is important, desirable or acceptable for public health. The judgement must explain the context and be evidence based.”* The guidance sets out in detail how such an evidence-based judgement is reached by a competent expert. Chapter 12 of the ES has followed these methods. This is not disputed by LBN, (LUC ES Review paragraph 11.9 (CD4.5.10)).

6.1.17 Uncertainty and limitations of the Health Assessment have been set out in ES Chapter 12 paragraphs 12.3.31 to 12.3.34 (CD1.19), concluding that “*the information available provides a suitable basis for assessment*”. The conclusions of the Health Assessment, taking into account uncertainty, are common ground between LBN and LCY (SoCG dated 23 October 2023 CD11.2).

6.1.18 It is also the case that Appendix 12.2 (CD1.53) to the ES Chapter 12 Health Assessment is transparent in stating that:

“All decision making is within the context of imperfect information and therefore uncertainty. Reducing uncertainty is a key element of Impact Assessment. Whilst not all uncertainty can be removed, the following steps have been taken to allow confidence in the EIA health assessment conclusions:

- *Methods are used that triangulate evidence sources and professional perspectives;*
- *The scientific literature reviews undertaken give priority to high quality study design, such as systematic reviews and meta-analysis, and strength of evidence;*
- *Quantitative inputs for other assessments have been used, which included model validation, as described in other chapters;*
- *The health assessment has been cautious, with conservative assessments, for example in taking account of non-threshold effects and vulnerable group findings;*
- *Monitoring and adaptive management is conditioned as part of ongoing compliance; and*
- *The health assessment has been transparent in its analysis and follows good practice.”* (Paragraph 1.1.43).

6.1.19 I am confident in the robustness of the Health Assessment and its conclusions on public health significance. No alternative Health Assessment has been put forward by HACAN East to suggest alternative public health significance conclusions reached by a competent expert in EIA human health assessment.

Conclusion

6.1.20 In conclusion, notwithstanding that there is scientific uncertainty, the Health Assessment is the mechanism by which the precautionary approach is applied (weighing the severity of risks and the available scientific literature); and has concluded that there are no threats of serious damage to the population’s health.

6.1.21 HACAN East contend that there may be an adverse effect to public health. However, no significant adverse effect to public health is anticipated and this is the conclusion of a detailed technical assessment that follows established guidance and is agreed with LBN.

7 CONCLUSION

- 7.1.1 A compliant health impact assessment has been undertaken.
- 7.1.2 It is agreed with LBN that there are no significant adverse effects on population health.
- 7.1.3 The implication of this is that the alleged 'significant harm to residential amenity' referenced in RFR1 is not related to significant effects on mental health or quality of life wellbeing outcomes for the population of residents near the Airport.
- 7.1.4 Any harm to residential amenity must, therefore carry limited weight, as it is not so great as to give rise to significant population health effects.
- 7.1.5 Relevant requirements relating to health in the policies cited by RFR 1 have been met, so these are not considered appropriate reasons for refusal. This includes that the Proposed Amendments would provide significant socio-economic related population health benefits.
- 7.1.6 HACAN East has questioned whether a precautionary approach must be adopted given that there remains uncertainty within the health literature. It is however the case that the weighing of such uncertainty and the relative severity of any risk to the public is an inherent consideration of the health assessment process. The Health Assessment has taken appropriate steps to reduce uncertainty, such that there can be confidence in its findings.
- 7.1.7 I cross-reference the evidence of Richard Greer in relation to noise (APP/2), Louise Congdon in relation to need/socioeconomics (APP/1) and Sean Bashforth in relation to the planning balance (APP/3). Information on air quality effects is set out in detail by Stephen Moorcroft in a technical note on air quality (APP/3/B/1).
- 7.1.8 The Health Assessment has neither overstated the benefits nor downplayed the negative effects of the Proposed Development.

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