

PROOF OF EVIDENCE**Noise**

On behalf of

LUTON BOROUGH COUNCIL

Town and Country Planning (Inquiries Procedure) (England) Rules 2000

Ben Holcombe, BEng(Hons), MIOA

APPLICANT: London Luton Airport Operations Limited

APPLICATION SITE: London Luton Airport, Airport Way, Luton

DESCRIPTION OF DEVELOPMENT: Variation of Conditions 8 (passenger throughput cap), 10 (noise contours), 22 (car parking management), 24 (Travel Plan) and 28 (approved plans and documents) to Planning Permission 15/00950/VARCON (dated 13th October 2017) for the dualling of airport way/airport approach road and associated junction improvements, extensions and alterations to the terminal buildings, erection of new departures/arrivals pier and walkway, erection of a pedestrian link building from the short-stay car park to the terminal, extensions and alterations to the mid-term and long-term car parks, construction of a new parallel taxiway, extensions to the existing taxiway parallel to the runway, extensions to existing aircraft parking aprons, improvements to ancillary infrastructure including access and drainage, and demolition of existing structures and enabling works and for the construction of multi-storey car park and pedestrian link building.

PINS REF: APP/B0230/V/22/3296455

LPA REF: 21/00031/VARCON



Luton Airport – 21/00031/VARCON
Proof of Evidence of Ben Holcombe –
Noise

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prepared for

Luton Borough Council

Town Hall

Luton

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1.0 Qualifications and Experience

1.1 I am Ben Thomas Holcombe and I am a Senior Consultant with Suono Consulting Ltd, who are consultants in acoustics. I have been at Suono since August 2021 and was previously with Cole Jarman (later renamed to be RSK Acoustics) for five years.

1.2 I graduated from the University of Southampton in 2016 with a BEng Honours degree in Acoustical Engineering. I am a Member of the Institute of Acoustics.

1.3 I have worked and continue to work on a wide range of schemes, including residential, industrial, environmental, hotel, retail, education and entertainment projects. In particular, I have been involved in several projects related to aviation noise, including giving evidence in the Upper Tribunal, the recent Stansted Airport expansion, London Luton Airport DCO application, Doncaster Airport, Goodwood Aerodrome, Exeter Airport, RAF Brize Norton and a European international multi-runway airport.

1.4 I confirm that the evidence within this Proof has been prepared in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.

2.0 Scope of Evidence

2.1 My evidence deals with the noise impact arising from the application to vary Conditions 8 (passenger throughput cap), 10 (noise contours), 22 (car park management), 24 (travel plan) and 28 (approved plans and documents), paying particular attention to Condition 10. There is no application to vary other Conditions, including 9 (noise control scheme), 11 (noise control monitoring) or 12 (ground noise control).

2.2 My Proof of Evidence (Proof) deals with how the proposed variation to Condition 10 sits with Local and Government Policy, as well as summarising the key noise findings of the Applicant. Ultimately, my recommendation for the application is that noise should not be a reason for refusal.

2.3 I also address points raised by LADACAN's Statement of Case, as well as CPRE Hertfordshire's Statement of Case, where points raised overlap with LADACAN's.

3.0 The Noise Case

Introduction

3.1 The Officer Report sets out the LPA's assessment of the impact of the proposal including in terms of noise. The Statement of Common Ground (noise) between the Local Planning Authority (LPA) and Applicant, LLAOL sets out matters not in dispute between them.

3.2 The passenger throughput cap within Condition 8 is sought by the airport to be raised from 18 million passengers per annum (mppa) to 19 mppa.

3.3 The application seeks to increase daytime ($L_{Aeq,16hour}$) and night-time ($L_{Aeq,8hour}$) summer contour area limits within Condition 10 from 19.4 km² to 21.1 km² and from 37.2 km² to 42.1 km², respectively, until the end of 2027. After 2027, contour area limits would reduce to 15.5 km² in the daytime and 35.5 km² in the night-time. By 2031, noise levels are forecast to reduce to below the original Condition 10 limits, 15.1 km² in the daytime and 31.6 km² in the night-time, with the reason for this delay being COVID. The contour areas in 2031 are predicted to be 14.7 km² during the daytime (0.4 km² below Condition 10 limit) and 31.5 km² during the night-time (0.1 km² below Condition 10 limit).

3.4 Noise impacts can potentially occur as a result of surface access activity, and movements by aircraft on the ground and in the air.

Surface Access Noise

3.5 Surface access noise was addressed in the application's screening report¹. As is normal, noise levels were calculated at 10 m from the kerb edge, so any increase (or decrease) would be the same for residential and non-residential receptors, as well as open spaces.

3.6 The geographical scope of the assessment covered the roads listed within Appendix C of the screening report appended to the January 2021 ES (ESA2).

3.7 Traffic increases are expected to lead to a change in noise level of less than 3 dB $L_{Aeq,16hour}$, which is not perceptible. The worst-case change would be on the A1081 New Airport Way, being an

¹ Environmental Impact Assessment Addendum, Volume 3: Figures and Appendices, January 2021 – Appendix 1A: Screening Report

increase of 2.0 dB (from 68 to 70 dB $L_{Aeq,16hour}$). As a result, the associated impact in terms of noise would be negligible.

Ground Noise

3.8 Ground noise was also addressed in the application's screening report¹. As precise forecasts were not known at the time of the screening report, an intensification factor was applied to the existing fleet mix to meet the proposed passenger cap. Any increase (or decrease) would be the same for residential and non-residential receptors, as well as open spaces.

3.9 The geographical scope of the assessment did not cover a specific spatial area, as the assessment was a high-level intensification exercise. Figure 2 (Environmental and heritage constraints) within Appendix A of the screening report appended to the January 2021 ES shows the nearest receptors to the airport.

3.10 The projected increase in number of aircraft would lead to a change in noise levels generated while they are on the ground of less than 1 dB(A) during both the day and the night. These increases would not be perceptible. The associated impact would be negligible in terms of aircraft-generated ground noise at any noise-sensitive receptor in the vicinity.

Air Noise

3.11 Air noise due to aircraft is addressed in the Environmental Statement (ESA2, January 2021), Environmental Statement Addendum 3 (ESA3, May 2021) and Environmental Statement Addendum 4 (ESA4, July 2022), with ESA4 providing the most up-to-date assessment of effects.

3.12 The geographical scope of the assessment covered the number of dwellings in each contour band, as can be seen on noise contour figures 6.1 to 6.18 in ESA4 Volume 3 (Figures and Appendices) and non-residential noise-sensitive buildings and open spaces as set out in Table 8.5 of the January 2021 ESA2 Volume 2.

3.13 The noise effects would arise as a result in changes to the number and mix of aircraft required to carry 19 mppa compared to that required to carry 18 mppa. This can be put in context by considering that 18 mppa were in fact handled by Luton Airport in 2019, and the number of ATMs required to handle this number was 141,481. The information accompanying the application

includes the forecast that to carry 19 mppa the number of ATMs would be 142,566, an increase of 1,085, or an increase of less than 1%, and the corresponding increase in average noise level ($L_{Aeq,T}$), even assuming a worst case and assuming no change in the mix of aircraft, would be a fraction of 1 dB. Such an increase is not perceptible and would have a negligible impact in terms of noise.

3.14 The original 2012 Environmental Statement forecast that the number of ATMs required to carry 18 mppa by 2028 was 156,840. The 2015 application² (ESA1) did not set out any expected changes to this figure. Current forecasts within ESA4 therefore indicate that a lower number of ATMs would be required to carry both 18 and 19 mppa than the number of ATMs anticipated for 18 mppa in the approved 2012 and 2015 applications. Hence there would be no perceptible increase in noise levels, irrespective of the improvements in aircraft design and fleet modernisation which have occurred since 2012.

3.15 **Figure 1** and **Figure 2**, set out in **Appendix A**, set out contour areas since 2011, the year before the original 2012 application, through to 2031. These can be seen in context with the current and proposed Condition 10 limits, as well as the passenger throughputs originally and currently expected.

3.16 The peak day air transport movements for the key assessment years are set out in Table 1 below and are taken from Table 2.1 of ESA4.

Table 1 Peak Day Air Transport Movements for key assessment years

Peak day	18 mppa			19 mppa	
	2019 ATMs	2023 ATMs	2024 ATMs	2025 ATMs	2028 ATMs
Daytime	417	417	417	419	413
Night-time	66	66	66	64	64
Daily total	483	483	483	483	477

² CD7.02 2015 Environmental Statement Addendum, July 2015

3.17 Day and night-time LOAELs (Lowest Observed Adverse Effect Level), SOAELs (Significant Observed Adverse Effect Level) and UAELs (Unacceptable Adverse Effect Level) are set out in Table 2 below:

Table 2 Day and Night LOAELs, SOAELs and UAELs, dB

Metric	Daytime (0700-2300)			Night-time (2300-0700)		
	LOAEL	SOAEL	UAEL	LOAEL	SOAEL	UAEL
$L_{Aeq,T}$	51	63	71	45	55	66

3.18 The application uses change criteria to determine when a significant impact is expected to arise. For air noise, this occurs at a noise level change equal or greater than 3 dB $L_{Aeq,T}^3$ when between the LOAEL and SOAEL, and equal or greater than 1 dB $L_{Aeq,T}$ when above the SOAEL.

3.19 For all assessment years, there are no dwellings within the UAEL areas.

3.20 For the worst-case noise year, that being 2023 (next year), the LOAEL and SOAEL areas, and dwellings contained within these, are set out in Table 3 below, as taken from Table 6.20 of ESA4 Volume 2.

Table 3 ESA4 Table 6.20 - LOAEL and SOAEL for various noise model scenarios

Scenario	Area of SOAEL (km ²)	No. Dwellings in SOAEL	Area of LOAEL (km ²)	No. Dwellings in LOAEL
<i>Daytime</i>				
Current Condition 10 for 2023	6.6	639	53.6	14,227
Proposed Scheme 2023	7.1	744	57.6	16,282
<i>Night-time</i>				
Current Condition 10 for 2023	10.1	1,671	60.6	19,589
Proposed Scheme 2023	11.5	1,993	68.5	24,602

3.21 Should the application be granted, there would be an additional 322 dwellings within the SOAEL at night, as the SOAEL expands by 1.4 km². 105 additional dwellings would be located

³ Where T = time, referring to either the day or night.

within the corresponding daytime area due to the 0.5 km² daytime SOAEL increase, but all 105 are of these dwellings are already contained within the night-time count of 322 additional dwellings.

3.22 Set out in Table 4 below is a summary of the adverse noise effects on dwellings resulting from the application. Dwelling counts are taken from Tables 6.3 and 6.4 from ESA4 Volume 2.

Table 4 Summary of significance of adverse effects on dwellings in worst-case noise year (2023)

Receptor	Dwellings subject to increase in noise level, dB $L_{Aeq,T}$			Significance
	-0.9 to -0.9	1.0 to 2.9	3.0+	
Daytime (0700-2300)				
Residential	16,282	0	0	Not significant Mitigation specified for 105 dwellings moving into SOAEL
Night-time (2300-0700)				
Residential	24,602	0	0	Not significant Mitigation specified for 322 dwellings moving into SOAEL

3.23 Set out in Table 5 below is a summary of the adverse noise effects on non-residential noise sensitive buildings and open spaces resulting from the application, as taken from Table 6.16 within ESA4 Volume 2.

Table 5 Summary of significance of adverse effects on non-residential in worst-case noise year (2023)

Receptor	Increase in noise level, dB <i>L</i> _{Aeq,T}		Significance
	Day (0700-2300)	Night (2300-0700)	
Old Knebworth Lodge Farm	0.4	0.8	Not significant
Caddington	0.5	0.7	Not significant
Park Town, Luton	0.5	0.8	Not significant
Whitwell	0.5	0.7	Not significant
Breachwood Green	0.5	0.8	Not significant
St Pauls Walden	0.5	0.7	Not significant
Farley Hill School, Luton	0.5	0.7	Not significant
Slip End	0.5	0.7	Not significant
Harpenden Children's Home	0.5	0.7	Not significant
Walkern	0.5	0.8	Not significant
Stevenage (Eastern Perimeter)	0.4	0.8	Not significant
Stevenage Station	0.5	0.7	Not significant
Luton (Wandon End)	0.5	0.7	Not significant
Kensworth	0.4	0.7	Not significant
Hudnall Corner	0.4	0.7	Not significant
Flamstead	0.5	0.7	Not significant
Markyate	0.4	0.7	Not significant

3.24 The methodology of the assessment undertaken by the Applicant with regards to noise matters is consistent with the approach adopted at other UK commercial airports of similar size and scale and is therefore deemed acceptable.

4.0 Policy

National Policy

4.1 The LBC Expert Witness for Planning matters, David Gurtler, will consider local and national planning policy within his Proof, as well as the planning balance. However, certain policies relate specifically to noise and the noise impact of aircraft in particular. The documents submitted with the application (ESA2), and in ESA3 and ESA4, considered national policy with regard to noise, namely the National Planning Policy Framework (NPPF), Noise Policy Statement for England (NPSE), Aviation Policy Framework (APF) and the subsequent APF consultation. Policy on noise has not been materially amended since the application was made.

4.2 With regards to noise matters, the application assesses impacts and effects in a manner that allows them to be determined against relevant government aviation policies. Policy points of greatest relevance are set out below:

4.3 The three aims of the government's long-term vision set out in Noise Policy Statement for England (NPSE 2010) for noise are:

- a) avoid significant adverse impacts on health and quality of life;*
- b) mitigate and minimise adverse impacts on health and quality of life; and*
- c) where possible, contribute to the improvement of health and quality of life.*

4.4 No significant increases in noise are calculated in any future year. Where dwellings would experience an increase which puts them within the SOAEL contour, and significant adverse noise effects are expected to occur, noise insulation (discussed in more detail later in this Proof) is required to be offered by the applicant to affected households. Aim a) is therefore met.

4.5 Noise contour areas are predicted to reduce in the long term through fleet modernisation, which the applicant will seek to incentivise. Aim b) is therefore met.

4.6 Noise contour areas in the day and night are calculated to continue reduce after the peak noise year, which is set out as 2023 (next year). Aim c) is therefore met.

4.7 The NPSE also sets out the concepts of LOAEL and SOAEL.

4.8 Thresholds for the SOAEL set by the applicant in the day and night are normal for such an assessment. There are no specific SOAELs set out in UK aviation policy.

4.9 Thresholds for the LOAEL in the day and night are in line with those set out in the Department for Transport Consultation Response on UK Airspace Policy (APF 2017).

4.10 APF 2017 also states in section 2.69:

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 in support of sustainable development.

4.11 As noise contour areas from 2031 onwards are predicted to be smaller than Condition 10's 2028 requirement, this application is deemed to achieve the aim of sharing noise benefits, but only in the longer term.

4.12 With regards to the change criteria used by the applicant to determine significant effects above the LOAEL but below the SOAEL, it is normal to use 3 dB $L_{Aeq,T}$. This change is taken from section 3.39 of Aviation Policy Framework (APF 2013):

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 $L_{Aeq,16h}$ or more.

4.13 The use of 3 dB is in line with both the Stansted Airport 35 mppa+ application⁴ in 2021 and the Bristol Airport 12 mppa+ application⁵ in 2022, which also used 3 dB $L_{Aeq,T}$ as the appropriate measure for the change criteria. The Bristol decision notes in section 258, “*No alternative appropriate measure for the change criteria was put forward, and the 3dB is current best practice for assessment within an ES. In light of this, the panel consider it an appropriate threshold as part of the EIA process.*”

4.14 It is also clear that the government expects, as a minimum, airports such as Luton to offer financial assistance towards acoustic insulation where properties are above 63 dB $L_{Aeq,16hour}$.

4.15 While the government's Jet Zero Strategy (July 2022) focusses on climate change, there is one section that relates to general assessment good practice, which is 3.62:

It is vital that local communities and the wider public have confidence that the impacts of airport expansion have been properly considered. Applicants should therefore provide sufficient detail regarding the likely environmental and other effects of airport development to enable communities and planning decision-makers to give these impacts proper consideration.

⁴ APP/C1570/W/20/3256619 – London Stansted Airport, Essex – Appeal Decision, 21 June 2021

⁵ APP/D0121/W/20/3259234 – Bristol Airport – Appeal Decision, 2 February 2022

Local Plan Policy

4.16 There is one main relevant Local Policy in Luton Borough Council's (LBC) Local Plan relating to airport expansion and associated noise, that being LLP6.

LLP6 (Airport Expansion):

Proposals for expansion of the airport and its operation, together with any associated surface access improvements, will be assessed against the Local Plan policies as a whole taking account of the wider sub-regional impact of the airport. Proposals for development will only be supported where the following criteria are met, where applicable/ appropriate having regard to the nature and scale of such proposals:

- i. they are directly related to airport use or development;*
- ii. they contribute to achieving national aviation policies;*
- iii. are in accordance with an up-to-date Airport Master Plan published by the operators of London Luton Airport and adopted by the Borough Council;*
- iv. they fully assess the impacts of any increase in Air Transport Movements on surrounding occupiers and/or local environment (in terms of noise, disturbance, air quality and climate change impacts), and identify appropriate forms of mitigation in the event significant adverse effects are identified;*
- v. achieve further noise reduction or no material increase in day or night time noise or otherwise cause excessive noise including ground noise at any time of the day or night and in accordance with the airport's most recent Airport Noise Action Plan;*
- vi. include an effective noise control, monitoring and management scheme that ensures that current and future operations at the airport are fully in accordance with the policies of this Plan and any planning permission which has been granted;*
- vii. include proposals that will, over time, result in a significant diminution and betterment of the effects of aircraft operations on the amenity of local residents, occupiers and users of sensitive premises in the area, through measures to be taken to secure fleet modernisation or otherwise;*
- viii. incorporate sustainable transportation and surface access measures that, in particular, minimise use of the private car, maximise the use of sustainable transport modes and seek to meet modal shift targets, all in accordance with the London Luton Airport Surface Access Strategy;*
- ix. incorporate suitable road access for vehicles including any necessary improvements as required as a result of the development.*

4.17 Having regard to the above criteria, set out below are comments in relation to each in turn:

- i. This criterion would be satisfied.

ii. The application is stated to lead to an increase in the rate of uptake of newer, quieter aircraft, which will lead to a reduction in noise contour areas (between 2022 and 2031), contributing to the requirement of APF⁶. While there would also be a reduction expected if the application was not approved, the forecasting shows that this would occur at a slower rate.

There would also be an increased rate of rollout for the Noise Insulation Scheme (discussed below). A greater number of dwellings would benefit from the NIS and experience lower internal noise levels in habitable rooms (assuming comparable take-up for with development and without development).

iii. The application is in accordance with the Airport Master Plan, which was adopted on 23rd November 2021.

iv. The noise impacts have been assessed sufficiently within ESA3 and ESA4 and mitigation put forward. There are no identified significant adverse effects within ESA4, which forms the most up-to-date assessment of impacts.

v. No material increases in day or night noise (or excessive noise including ground noise) would occur at any time in the day or night. The application would be in accordance with the airport's most recent Noise Action Plan (2019-2023). The noise impact would not be perceptible and is therefore negligible.

vi. An effective noise control, management and monitoring scheme would be in place as a result of permission granted. Together, these would ensure that current and future operations at the airport would be fully in accordance with the policies of the plan and the planning permissions granted.

⁶ Aviation Policy Framework, 2013, Section 3.3: “*This means that the industry must continue to reduce and mitigate noise as airport capacity grows.*”

vii. Betterment is achieved through an increased number of dwellings being able to benefit from the NIS. Betterment would also be achieved by reducing noise levels to below the lower future contour areas in Condition 10, although this only applies if the calculated areas become the future contour limits. This second point is in line with government aviation noise policy, that being a sharing of benefits as required by the NPSE.

Significant diminution is a target that can only be achieved over the long term and the Local Plan policy requires this “*over time*”, rather than to be achieved during the temporal scope of a particular application. For this aspect of the Local Plan policy to be in line with the NPSE policy of sharing benefits, significant diminution should be achieved through methods taken to secure fleet modernisation.

As the application seeks to incentivise fleet modernisation, significant diminution would be expected to come about sooner than if the application is refused.

Through incentivising fleet modernisation and the implementation of the NIS, the ‘significant diminution and betterment’ aspect would be achieved. Contour areas over time can be seen in **Appendix A**.

viii. This section is not directly relevant to noise.

ix. This section is not directly relevant to noise.

4.18 With regards to noise matters, the application can be considered to be in line with Local Plan policy.

5.0 Key Noise Findings

5.1 The application has been through three iterations of consultation, including a request for additional information. Within each consultation, a thorough review of the noise case has been

undertaken. This has identified shortcomings, the majority of which have been covered within the updates between consultations.

5.2 The key noise findings of ESA4 are set out in Table 6 below, when considering noise levels generated by the proposed condition variations against the extant planning condition 10. It is normal to consider the comparison between the two cases as being a relevant indication of noise impact, as the forecast noise level in any year if the application is approved is compared to the noise level that would reasonably be expected in the community if the airport were operating in compliance with its noise restrictions in the absence of the additional movements required by the application.

Table 6 Day and night noise level increases for assessment years

Metric	2023	2024	2025	2028	2031
$L_{Aeq,16hour}$	< 1 dB	< 1 dB	< 1 dB	< 1 dB	0 dB
$L_{Aeq,8hour}$	< 1 dB	< 1 dB	< 1 dB	< 1 dB	0 dB

5.3 At no point are significant impacts expected during the daytime or night-time, which would occur at ≥ 3 dB change (or ≥ 1 dB change when above SOAEL, by the applicant's own definition).

5.4 The noise impact for the worst-case year (2022) previously calculated within ESA3 is the same as that for the worst-case year (2023) within ESA4, with the same contour areas.

5.5 Previously, when the application was granted at committee on 1st December 2021, day and night contour areas in 2031 were kept at the future reduced limits of 15.2 km² and 31.6 km², for the day and night-time respectively. While the Local Authority is not seeking to go back on this resolution, I do note that betterment could be obtained by reducing these area limits to 14.7 km² and 31.5 km² in the day and night-time, these being the noise contour areas calculated by the applicant for 2031.

5.6 A 0.4 km² daytime reduction and 0.1 km² night-time reduction would not lead to any noticeable noise reduction at affected dwellings and would have a negligible impact, with regards to air noise.

6.0 Mitigating Effects

6.1 In accordance with government policy set out in Aviation Policy Framework 2013, enhanced acoustic mitigation is proposed. This applies where dwellings are within the 63 dB $L_{Aeq,16hour}$ contour, 55 dB L_{night} contour, or exposed to individual flyover levels of 90 dB SEL⁷, through the Noise Insulation Scheme (NIS). The applicant is proposing to significantly expand their existing NIS.

6.2 The NIS was previously up to £3,000 per property (index linked) with an annual budget of £100,000. This was expected to take 33 years to insulate all eligible properties (although uptake is approximately 50%).

6.3 The subject of the Section 106 obligation (draft) proposed NIS scheme is now £4,500 per property (index linked) with no cap on the annual budget in the event that planning permission is granted.

6.4 The increased budget would allow for an accelerated rollout of the scheme, materially enhancing the current position.

6.5 An increased number of dwellings would be eligible for the NIS with the granting of permission, while the predicted increases in air noise these dwellings would be subject to are less than 1 dB $L_{Aeq,T}$, which is not perceptible. The increased number of dwellings benefitting from the NIS would have insulation provided capable of mitigating air noise, but also other sources of environmental noise including surface access and ground noise.

6.6 Aviation 2050 sets out that the government are expecting to reduce the noise insulation threshold from 63 dB $L_{Aeq,16hour}$ to 60 dB $L_{Aeq,16hour}$, although this is not yet government policy. The 63 dB $L_{Aeq,16hour}$ contour in 2023 is smaller in extent than the 55 dB $L_{Aeq,8hour}$ contour, which is also used by Luton Airport as a NIS threshold. The 60 dB $L_{Aeq,16hour}$ contour in 2023 is very similar in extent to the 55 dB $L_{Aeq,8hour}$, being 0.4 km² smaller (11.5 km² compared to 11.9 km^{2,8}).

⁷ Sound Exposure Level, dB

⁸ Contour areas taken from Table 6.16 in ESA4 Volume 2

6.7 Should the daytime reduction become policy, this would potentially only lead to a small number of further dwellings being eligible. Some habitable rooms not used as bedrooms would also be required to be treated, as those currently only eligible through the night-time criterion would only have bedrooms insulated.

6.8 The scheme satisfies the requirements of government policy (namely the APF 2013) and is also potentially of benefit to those living in dwellings already within the SOAEL, if they gain insulation faster than they would if the application was not approved.

7.0 Rule 6 Party Representations

7.1 As with any airport application, a large number of representations were received. Statements of Case have been received from both LADACAN and CPRE Hertfordshire.

7.2 Paragraph 20 of LADACAN's Statement of Case sets out 6 points (Points a to f) that purport to demonstrate that the noise case is flawed. I make the following comments in relation to those points:

a. the 'baseline' used to measure the increase in noise is opaque and unclear; a number of ES comparisons are made the 2019 (a year of non-permitted development) and we will argue that the impact is understated;

7.3 The actual number of ATMs and fleet mix and consideration of the facts which pertained in 2019, is the best measure of assessment of the 2019 position with 2031. I therefore consider it to be helpful contextually to identify how much noisier conditions would be if the same mix of aircraft was increased in number sufficient to carry 19 mppa. The purpose is to get some scale on the magnitude of changes that the local community might experience if this application is approved.

7.4 Turning to what is the relevant 'baseline', the acid test of any ES noise assessment is to identify how much additional (or less) noise will be generated by full capacity operations with the application approved (19mppa "with development") as compared to full capacity operations if it is denied (18mppa "without development"). Assessing the noise associated with the 142,566 ATMs forecast to carry 19 mppa against these limits effectively gives us the relevant "with development" vs

“without development” noise difference for 2028. For both the daytime and the night-time, the difference is less than 1 dB and no significant effects arise.

b. the metrics used to assess noise impacts are narrow in scope and fail to take into account the impact of intermittent and unpredictable noise as opposed to mere ‘average’ impacts;

7.5 The metrics used are those set out as the most appropriate within in UK aviation policy.

Section 2.72 and 2.73 of APF 2017 states (original emphasis):

*2.72 So that the potential adverse effects of an airspace change can be properly assessed, for the purpose of informing decisions on airspace design and use, **we will set a LOAEL at 51 dB LAeq 16 hr for daytime, and based on feedback and further discussion with CAA we are making one minor change to the LOAEL night metric to be 45dB LAeq 8hr rather than Lnight to be consistent with the daytime metric.** These metrics will ensure that the total adverse effects on people can be assessed and airspace options compared. They will also ensure airspace decisions are consistent with the objectives of the overall policy to avoid significant adverse impacts and minimise adverse impacts.*

*2.73 There is not at present any available hard evidence to link outcomes on health and quality of life with frequency-based noise metrics however **we will ensure that any new evidence in this area is incorporated into the appropriate assessment methodologies. This is an area of study which may be appropriate for ICCAN⁹ to undertake further work.***

7.6 While these sections relate to airspace change, they refer back to the overall policy objectives of the NPSE. $L_{Aeq,16hour}$ and $L_{Aeq,8hour}$ metrics are therefore entirely appropriate.

7.7 The ES includes an analysis of the Nx, or ‘number above’ metric and presents in Appendix 8E contours of the number of flyover events above 65 dBA for the daytime and 60 dBA for the night-time. The inclusion of this additional information provides further, quantitative data on the expected aircraft noise levels, specifically addressing the number of intermittent noise events to which the local community will be exposed.

7.8 In this regard, the 19 mppa ES adopts an approach consistent with that used for the Stansted Airport 35 mppa+ application in 2021 and the Bristol Airport 12 mppa+ application in 2022, and is therefore considered to follow good practice on this issue. In both these cases, the Secretary of State granted permission. I note, however, that Nx should only be considered as a supplemental indicator of aircraft noise, as CAP 1506 SoNA 2014: Aircraft (Survey of noise attitudes 2014:

⁹ The Independent Commission on Civil Aviation Noise (ICCAN) was disbanded by the government in September 2021, with its portfolio of responsibilities reverting to the CAA. Some, if not all, of ICCAN’s recommendations must therefore be considered as having limited weight.

Aircraft) clearly identifies that the best correlation with mean annoyance is with the average summer day noise exposure expressed as $L_{Aeq,16hour}$. No evidence was found to suggest that any of the other examined indicators (L_{den} , N70 or N65) correlated better with annoyance than $L_{Aeq,16hour}$. It goes on to note that there is merit in considering greater use of Nx metrics as supplemental indicators of noise exposure, but evidence based decisions should continue to use $L_{Aeq,16hour}$. Nx metrics are set out in ESA4 Volume 3 (Figures and Appendices) Figures 6.19 to 6.26.

c. the spot level noise predictions in the ES for various aircraft types and locations differ significantly from the Appellant's noise case;

7.9 I have seen no evidence submitted by LADACAN (or any other party) and can therefore comment no further.

d. no evidence is provided to give full confidence in the noise model calibration, but the response to a technical query shows how sensitive it is to parameters;

7.10 It is not normal to expect an ES for an application of this type to contain full details of the noise model calibration, especially as the model has been used for a number of years at Luton Airport with, various calibration exercises having been carried out over time. It is understood that regular calibration has taken place by the airport, as is standard practice.

7.11 CAP 2091 (CAA Policy on Minimum Standards for Noise Modelling, 2021), sets out the modelling requirements for varying airport sizes. Luton Airport is in category C and complies with CAP 2091.

e. the fleet projections contain inconsistencies when compared to publicly available information;

7.12 In cases such as this, predictions of aircraft noise are made on the basis of fleet forecasts supplied by the applicant.

f. the ES does not meet policy requirements to explore options to resolve the issue, such as adequate operating restrictions, or respite.

7.13 With regard to operating restrictions, the UK is an ICAO (International Civil Aviation Organisation) member state and therefore adopts its 'Balanced Approach' to aircraft noise management. The ICAO guidance material covered by the Balanced Approach provides contracting

states with an internationally agreed but flexible approach to address aircraft noise problems at individual airports. The obligations, process and procedures for implementing the balanced approach at EU airports are set out in EU Regulation 598/2014, and these are adopted, unchanged, within UK legislation as The Aviation Noise (Amendment) (EU Exit) Regulations 2019.

7.14 This balanced approach consists of four key pillars:

1. Reducing aircraft noise at source,
2. Land use planning,
3. Changes to operational procedures,
4. Restrictions on the use of the noisiest aircraft.

7.15 These noise control measures are to be adopted in a hierarchical manner and operating restrictions are only to be adopted when all other noise control measures have been implemented but deemed to be inadequate at all UK airports and is applied at Luton.

7.16 Respite is considered to constitute periods of exposure to no, or reduced, aircraft noise that are predictable and of sufficient length to offer meaningful benefit to those affected. Such respite can be planned and managed at airports with multiple runways, such as London Heathrow, but could only be offered at a single runway airport such as Luton if all operations were banned for certain periods of the day. Such a restriction would not be compatible with the ICAO balanced approach nor consistent with the practice adopted at all other comparable single runway commercial airports in the UK.

7.17 I make no additional comment regarding the Statement of Case by CPRE Hertfordshire.

8.0 Conclusions

8.1 As a result of the application to vary several conditions, specifically 8 and 10, there is potential for noise impact arising.

8.2 Surface access and ground noise were scoped out of the Environmental Statement (ESA2), as these would have negligible impacts.

8.3 Noise level increases from airborne aircraft in the day and night-time are not significant, being under a 1 dB increase in every assessment year, which is not perceptible and is in line with local plan policy of no material increase in noise. This noise increase tallies with the increase in ATMs proposed being less than 1%. Importantly, by 2031 the application forecasts that noise levels generated by ATMs required to carry 19 mppa will not exceed the limits that are set by condition for the permitted 18 mppa. The application is in line with government policy for airport operators to share the benefits of technological advancements in noise reduction with affected communities.

8.4 As a result of the application, an additional 322 dwellings are expected to experience a significant effect, being above the SOAEL during the night-time. This increase takes the highest total number of dwellings in any assessment year to 1,993 and would occur in 2023 (next year). Based on the fleet forecasts supplied by the applicant, if the application is not approved, 1,671 dwellings would be above the SOAEL.

8.5 A form of mitigation is proposed for these dwellings, which is in line with government policy requirements of the APF 2013, to provide acoustic insulation to all dwellings experiencing 63 dB $L_{Aeq,16hour}$. As a result of the application, increased funding would be made available by the applicant for the Noise Insulation Scheme. There would be an increasing of money offered per dwelling, as well as an increased capability to offer insulation to more dwellings. The improved NIS would be a significant improvement on the current situation.

8.6 I therefore conclude that the impact of the proposal that would be caused due to noise would not be justified as a reason for refusal of planning permission.



Appendix A: Compendium Analysis of Variables

A1. Figures 1 and 2 below set out the change in conditioned contour levels over time and the limits stated in Condition 10, both existing and proposed. Passenger throughput is also set out, as was predicted in the 2012 application, as has occurred and forecast in this application.

A2. The left-hand axis corresponds to contour area in km². The right-hand axis corresponds to passenger throughput in million passengers per annum.

A3. The information contained within the graphs is set out in **Table A1** below, as well as references setting out where the information has been taken from.

Table A1 Contour areas, passenger throughput and data location

Year	57 dB $L_{Aeq,16hour}$ contour area, km ²		Condition 10 day contour area limits, km ²		48 dB $L_{Aeq,8hour}$ contour area, km ²		Condition 10 night contour area limits, km ²	
	2012	2022	2012	2022	2012	2022	2012	2022
2011	12.8	12.8	31.5	31.5	35.8	30.1	85.0	85.0
2012	14.7	14.7	19.4	19.4	35.8	36.0	37.2	37.2
2013	13.8	13.8	19.4	19.4	35.9	30.7	37.2	37.2
2014	14.5	15.8	19.4	19.4	36.0	35.2	37.2	37.2
2015	15.2	17.2	19.4	19.4	36.2	35.3	37.2	37.2
2016	15.8	19.2	19.4	19.4	36.3	36.5	37.2	37.2
2017	16.5	19.0	19.4	19.4	36.4	38.7	37.2	37.2
2018	17.2	19.4	19.4	19.4	36.5	40.2	37.2	37.2
2019	17.9	20.8	19.4	19.4	36.6	44.2	37.2	37.2
2020	18.5	12.2	19.4	19.4	36.7	28.8	37.2	37.2
2021	19.2	10.9	19.4	19.4	36.9	23.9	37.2	37.2
2022	19.2	15.7	19.4	19.4	37.0	35.0	37.2	37.2
2023	19.2	21.1	19.4	21.1	37.1	42.1	37.2	42.1
2024	19.2	20.4	19.4	21.1	37.2	41.9	37.2	42.1
2025	18.2	19.4	19.4	21.1	35.8	39.8	37.2	42.1
2026	17.2	17.4	19.4	21.1	34.4	37.6	37.2	42.1
2027	16.2	16.4	19.4	21.1	33.0	36.5	37.2	42.1
2028	15.2	15.5	15.2	15.5	31.6	35.5	35.5	35.5
2029	15.2	15.3	15.2	15.5	31.6	33.6	35.5	35.5
2030	15.2	15.1	15.2	15.5	31.6	32.0	35.5	35.5
2031	15.2	14.7	15.2	15.1	31.6	31.5	35.5	31.6

Area data in columns headed 2012 taken from CD6.2 (Environmental Statement for 18 mppa) Table 12.6 (PDF page 203), with intervening years interpolated.

Area data in columns headed 2022 taken from yearly reports, as presented in CD5.12 (Noise consultant's PowerPoint presentation) up until 2021. Beyond this, values are taken from CD1.16 (ESA4).

Contour limits are taken from CD6.2 (2011 only) and CD1.16 (2012-2031).

Figure 1 – daytime

■ 2012 mppa; ■ 2022 mppa; — 2012 57 dB $L_{Aeq,16hour}$ area; — 2022 57 dB $L_{Aeq,16hour}$ area; ■ ■ existing Condition 10 limit; ■ ■ proposed Condition 10 limit.

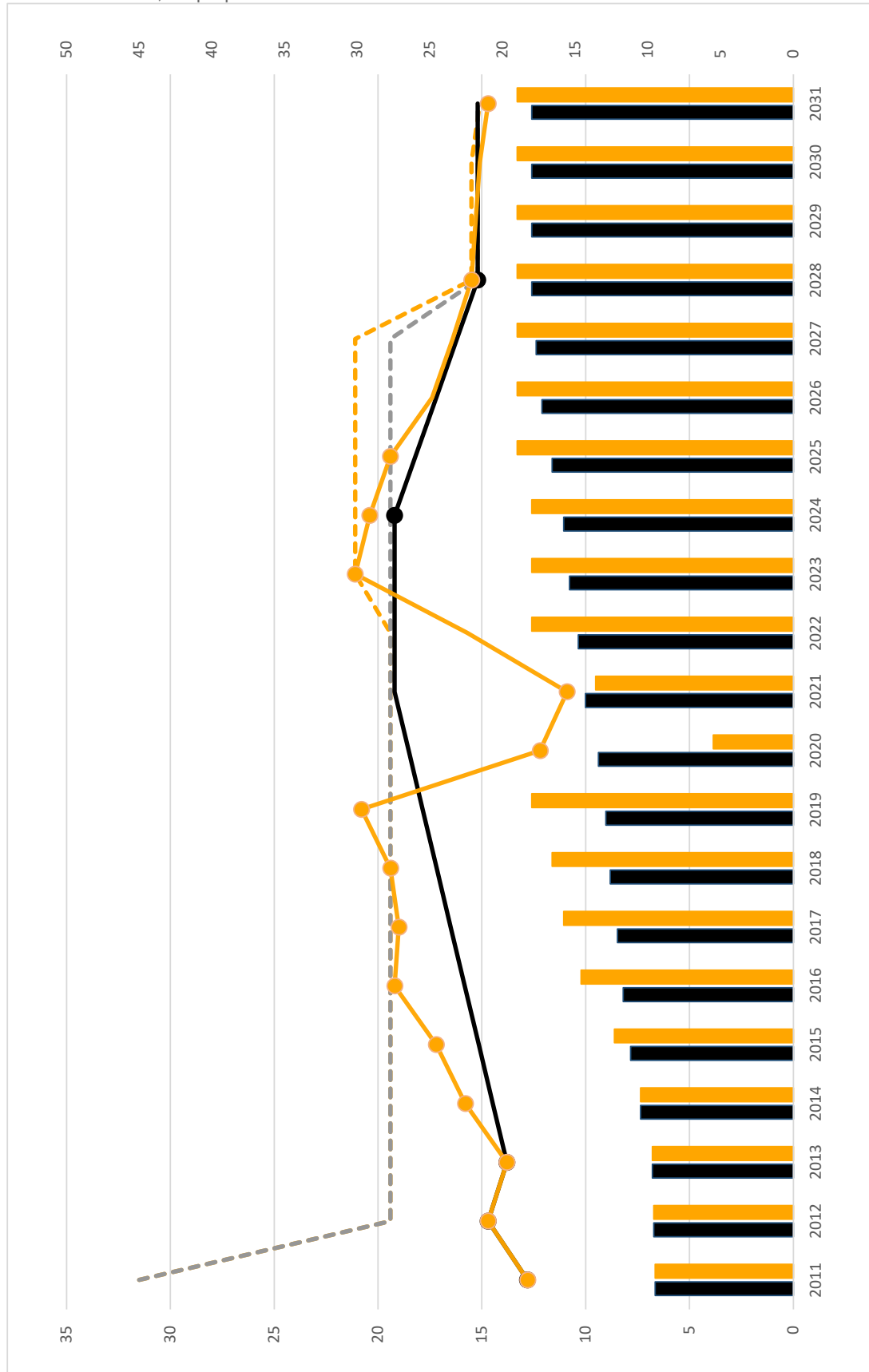


Figure 2 – night-time

■ 2012 mppa; ■ 2022 mppa; — 2012 48 dB $L_{Aeq,16hour}$ area; — 2022 48 dB $L_{Aeq,16hour}$ area; ■ ■ existing Condition 10 limit; ■ ■ proposed Condition 10 limit.

