LADACAN comments on submissions at Deadline 11 IP ref 20040757

Contents

Glossary

Airport	London Luton Airport
Airport Operator	London Luton Airport Operations Ltd, currently the concessionaire at the Airport
Applicant	Luton Rising (London Luton Airport Ltd)
Application	This application TR020001 for a Development Consent Order
CAP1498	'Definition of overflight', CAP 1498, Civil Aviation Authority, 2017
CAA	Civil Aviation Authority
Community Noise Monitoring	Informal monitoring using mobile noise monitors overseen by non-acoustician staff from LLA, with monitors typically placed in the gardens of noise-complainers so as to be secure, and not necessarily with clear line-of-sight to passing aircraft, adequate distance from reflective surfaces, or suitable cutoff parameters.
LLA	London Luton Airport
LLAOL	London Luton Airport Operations Ltd, the operator of LLA
mppa	'million passengers per annum': a measure of an airport's passenger capacity or actual passenger throughput
noise contour	An outline on a map enclosing an area in which the 8-hour or 16-hour logarithmic average of aircraft noise for an average day in a defined 92-day summer period equals or exceeds a given value, expressed in terms of LAeq for an 8h or 16h period
noise insulation	The compensation being proposed by the Applicant for residential and non-residential properties affected by the noise impacts of the Application

Section 1: LADACAN's comments on TR020001-003235-8.192 Applicant's Response to Deadline 10 Submissions

Comments use ID and page numbers from document 8.192, and may summarise concern or response to provide a more manageable format.

I.D	Concerns raised	Luton Rising's Response	LADACAN further comments
3	Table 2.2 Compensation page 5 b) Paragraph 6.1.27 describes modelling of free field ground noise from aircraft movements: is the ExA satisfied that such a model exists and has been adequately calibrated and tested?	*"b) The model exists, it is used to determine eligibility for the airport operator's current scheme and is robust.* *To provide further certainty, paragraph 6.1.27 of Compensation Policies, Measures and Community First [TR020001/APP/7.10] has been updated to specify that the approach to ground noise modelling for the insulation scheme shall be agreed in writing with Luton Borough Council."* *"c) In the context of sustainable development, £4,500 is an appropriate contribution to mitigate and minimise ground noise effects, noting that insulation would only be required on the façade facing the airport (noise source).* *In the Applicant's response to Deadline 4 Hearing Actions [REP4-070] (see Action Point 25), the Applicant noted that a £4,000 grant would be expected to provide insulation to 3 or 4 standard windows, a 5 sided bay window and 1 standard window, or patio doors and 1 large window."*	Residents have reported instances of reverse thrust used to assist braking when an aircraft is on the ground after landing, and/or to achieve braking by means which avoid brake pad heating. Is the ExA satisfied that the Ground Noise Model adequately includes provision for reverse thrust incidents and the loudness of noise generated, which even in Breachwood Green is reported as intrusive (reference correspondence from Mr Mills-Baker evidencing the issue)? The mix-and-match set of windows or patio doors alluded to appear not to relate to a full façade which, if at the rear of a property, might contain patio doors and 1-2 standard windows on the ground floor, and 2-3 standard windows on the first floor, for example. To ensure adequate protection it would be appropriate to require funding for noise insulation to be fitted to all windows and doors on the façade exposed to ground noise, without specifying a financial limit, or to ensure that the proposed budget would be sufficient for a complete façade.

I.D	Concerns raised	Luton Rising's Response	LADACAN further comments
4	Table 2.10 Noise and Vibration, page 48 "The centre-of-swathe value of 23° is well below what the CAA considers reliable in noise measurement"	*"LADACAN have provided a reference to the CAA's 'Definition of overflight' in the context of "what the CAA considers reliable in noise measurement".* *This document refers to elevation angles in the context of what is considered an 'overflight' and the point at which lateral attenuation increases dramatically, but this is not the same as the CAA saying that noise cannot be reliably measured beyond certain angles.* *Nowhere in this document does the CAA quantify elevation angles in the context of reliable noise measurement."*	The extract of CAP1498 provided in Annex A of REP10-079 assesses the effects of elevation angle of an aircraft relative to the observation or noise measurement point. By reference to paragraph numbers in the extract: **3.10** describes one effect, namely that of propagation distance, and its influence on perceived noise. **3.15** indicates that for an aircraft with wing-mounted engines, an additional effect – lateral attenuation – starts to become important below elevation angle of 60°. It lists factors *"such as atmospheric scattering effects, engine shielding (which is also influenced by engine type/location) and, at lower elevation angles, ground absorption"* all collectively known as lateral attenuation. **3.16** states that below about 35° lateral attenuation increases dramatically – and in addition to the effect of what would also be increased propagation distance. **3.17** indicates that the *"added complications of these effects"* can be avoided by using a threshold elevation angle of 60°. It is reasonable to infer from this assessment that it is increasingly difficult to obtain a reliable indication of the noise at low elevation angles compared to measurements taken at or above the 60° threshold. The Applicant has indicated an average difference of +1.4dB at LTN_BG. Tables 6.10 – 6.15 of REP9-017 show the individual type noise prediction errors of +1.3dB, +2.4dB, +1.8dB, +3.0dB, -0.2dB and +0.1dB on approach. These suggest that the model has not reliably predicted approach noise in that location. That, coupled with the failure to obtain any reliable data from LTN_SLTN, casts doubt on the reliability of the noise modelling in two key locations that influence the contours which in turn define both ES Impacts and GCG Limits.

Section 2: LADACAN's comments on TR020001-003236-8.191 Closing Submissions

Comments use page and table numbers from document 8.191.

Page	Issue raised	Luton Rising's Assertion	LADACAN further comments
166	Table 9-1 Air Noise: Validation of the Aviation Environmental Design Tool (AEDT) air noise model was discussed at ISH3 and ISH8 and was the subject of many written submissions and ExA Written Questions	*"The AEDT noise model validation has been the subject of technical scrutiny by the Host Authorities' noise consultant and the Civil Aviation Authority (CAA). As a result, the AEDT noise model validation is agreed as appropriate in the SoCGs for each Host Authority [TR020001/APP/8.13-8.17] and the CAA [TR020001/APP/8.10]."*	As far as we are aware, whilst the process employed for noise model validation was the subject of scrutiny by the Host Authorities' noise consultant and the Civil Aviation Authority, those third parties did not scrutinize the likely reliability of the Community Noise Monitoring data (see glossary) used in the process by surveying the locations from which it was obtained; the parameters used to derive flight-correlated noise data measurements from the Sound Pressure Level readings; and any other factors (such as calibration) which may have affected its reliability. Any noise model is only as reliable as the raw data upon which it is based. We have provided careful and credible evidence indicating that the data obtained from at least three locations was not reliable (REP10-079 Section 2, REP9-081 Section 2). We respectfully request the ExA to take this distinction into account in assessing the reliability of the noise modelling. Given that the resolution in respect of Limits is proposed as being via future annual validation of the noise model, it would be essential to ensure adequate quality of noise monitoring during that process. We ask the ExA to ensure qualified and independent oversight of the annual noise model validation process, including scrutiny of the quality of data from all noise monitoring (especially mobile) used to inform it.