

## **LADACAN submission relating to LLAOL request to vary Condition 11i (LBC planning ref 12/01400/FUL and Bickerdike Allen ref A9501-R03/B)**

### **Summary of Condition 11i and objections raised**

Condition 11i as currently framed seeks to control aircraft noise by setting a different Noise Violation Level (NVL) above which a fine is payable, for each aircraft QC type. The airport operators and airlines argue that the overall methodology is complex and not transparent, that the choice of NVLs could in fact fail to incentivise the use of quieter types because they may be at more risk of being fined, and that due to the stringent levels at which the violation thresholds have been set, the number of fines would increase very suddenly and in a timeframe over which airlines could not replace fleets. They back up their objections by providing historic averages of departure noise values measured for different aircraft types operated at Luton.

LLAOL via Bickerdike Allen argue that the QC-based NVL scheme should be discarded in favour of a much simpler scheme based on a single NVL for daytime departures, and a lower one for night.

It should be noted that the Noise Control Scheme which LLAOL has recently put in place proposes much reduced fines on the presumption of significantly increased numbers of violations, so if any change is made to Condition 11i then the NVL fines would need to be readjusted accordingly.

LLAOL also argue that it is difficult to be sure of the QC classification for a given departure, whereas surely the whole QC system is based on the ability reliably to assign a QC value to all aircraft.

LLAOL and Bickerdike Allen have proposed that Condition 11i be modified to set the daytime NVL at 82dB(A) and the night NVL at 80dB(A).

### **Practical effect of LLAOL proposal**

Data from the LLAOL 2014 Annual Monitoring Report enables the effect of the proposed NVLs to be assessed in terms of numbers of fines were the system to have been implemented in 2014. On p24 of the 2014 AMR, LLAOL states that only 1% of total departures, ie 386 flights, exceeded 79dB(A) at the noise monitors in the entire year. Yet the proposed daytime NVL is 82dB(A), and in 2014 only 41 flights (0.1% of the total) exceeded that level. It is clear that the proposed NVL level would have as little impact as the historic 94dB(A) level, since it is too high in comparison to actual performance.

At night, the proposed NVL is 80dB(A). The 2014 AMR states on p25 that 33 night departures (2%) in the year exceeded 79dB(A), and only 3 exceeded 82dB(A). Since the majority of the 79-82.9dB(A) band lies in the range 79-80db(A) due to the distribution pattern, it is reasonable to estimate that approximately 10 flights would have exceeded the proposed 80dB(A) night NVL in the entire year. Again, fining so few flights hardly acts as a deterrent likely to drive down noise.

### **Proposal from LADACAN**

LADACAN believes that robust noise control at Luton Airport is essential due to the proximity of the airfield to so many rural towns and villages in all directions around it.

The Noise and Track SubCommittee of the London Luton Airport Consultative Committee has agreed many times that the aim of noise control is to incentivise a reduction in aircraft noise over time.

If a simple “daytime NVL” and “night-time NVL” approach is to be used to control noise, then to satisfy the above criteria, the NVL levels must be chosen so as to yield sufficient violation fines that they act as an adequate incentive to drive the move to quieter aircraft, and they must themselves

reduce gradually over time so that the reduction in individual noisiness continues as a compensation for the steadily increasing number of flights.

It is our view that fining just 41 flights per year for exceeding the proposed daytime NVL of 82dB(A) is not going to make any difference to the long-term noise trend. Similarly, fining just 10 flights per year for exceeding the proposed night-time NVL of 80dB(A) is equally ineffective.

If the single day NVL and single night NVL method is to be effective, LADACAN proposes that the NVL values should be as follows:

**Daytime NVL: 81dB(A) as of 1/1/2016, reducing to 80dB(A) on 1/1/2020 and 79db(A) by 2025**

**Night-time NVL: 79dB(A) as of 1/1/2016, reducing to 78dB(A) on 1/1/2020 and 77db(A) by 2025\***

Based on the information above, even a 79dB(A) daytime NVL would only affect 1% of flights. If the industry does what it promises and introduces quieter aircraft, then this proportion will reduce, and the incentive will have had a useful effect on the noise burden.

At night, a 79dB(A) NVL will penalise 2% of flights initially, based on 2014 levels, making the clear point that night noise needs to be addressed since it cause most disturbance. Driving this down to 78dB(A) by 2020 will flush out the noisiest aircraft and highlight that real action is required.

(\*) Whether a further reduction to 77dB(A) by 2025 is reasonable can be reviewed in 2020 based on the progress made, and balanced by the setting of the levels of fines.

**The fines to accompany the above proposals should be restored to their 2014 levels, and the Noise Control Scheme wording adjusted accordingly. This would be the quid pro quo for allowing the operators their request for a simpler system of noise control, and the increased number of flights.**

### **Mandate for strong and effective noise control**

The planning application for capacity expansion at Luton Airport attracted significant local attention and at the planning meeting in December 2013 the Councillors voted on the complete package of measures including what had been explained to them as being robust noise control Conditions.

In their personal summings-up ahead of the vote, the Councillors each expressed their significant concerns over the noise impact in particular of capacity expansion, and their votes were made on the understanding and assurances that the package as a whole would give adequate protection.

Condition 11i is core to the noise control measures in that integrated package, and despite semantic arguments over whether the wording of 11j could be interpreted as potentially conflicting with it – arguments which can be nullified by observing that the word “noisiest” in 11j restricts its application – it is unreasonable to simply swap out 11i for a potentially weaker, if simpler, method which has not in the past delivered the kind of noise control required to honour the intention of driving down noise over time (see Appendix) unless the NVLs are set at challenging enough levels, as we propose above.

It is also worth noting that it is often the very noisiest individual flights – especially those at night – which sensitise local people to aircraft noise and therefore it is in everybody’s interests (including LLAOL) to top-slice the noisiest offenders in a very effective way.

We therefore urge LBC to give very careful consideration to ensuring that whilst the precise NVLs in the current 11i may be mathematically slightly adrift from the ideal given the historic data, the principle of robust noise control which drives airlines towards aircraft in lower noise bands is maintained, given the very significant negative environmental impact of the planned expansion.

## **Appendix: Limitations to the value of NVLs and peak noise measurements in noise control**

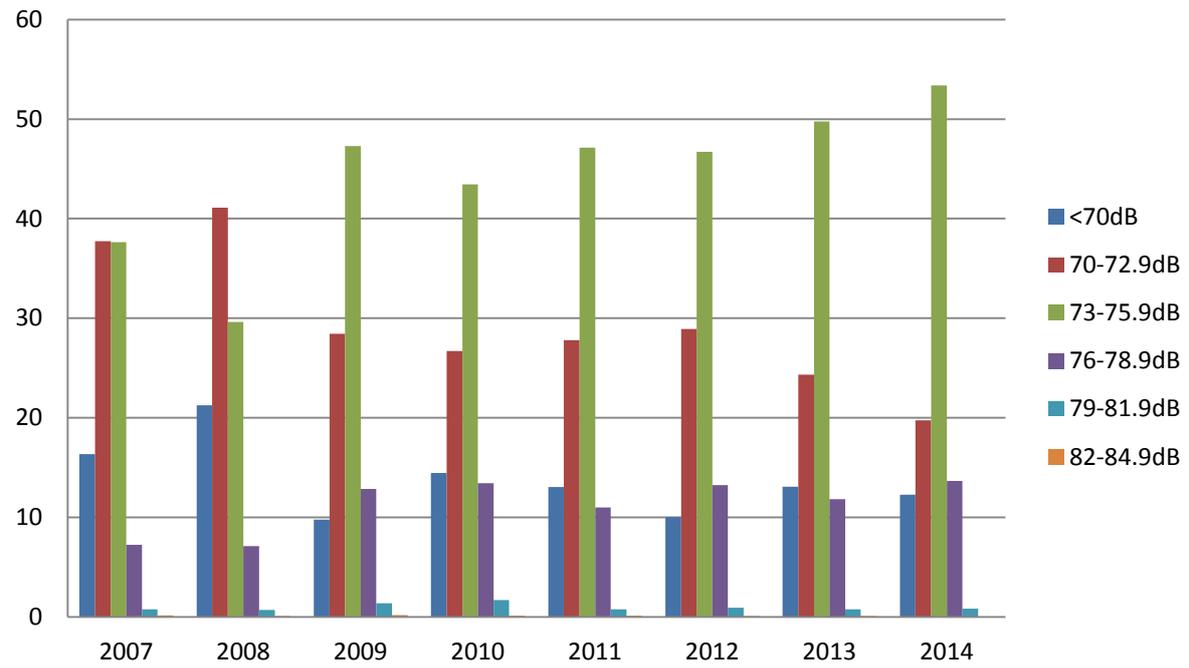
It is clear that a single noise datum per flight departure – namely its peak noise measured at a fixed distance from the airfield – is a very blunt instrument indeed with which to seek to achieve noise control and to incentivise the use of quieter aircraft, for a number of reasons:

1. Peak departure noise measured by Luton Airport for a given aircraft and engine type operated in a similar way can vary by some 8dB(A) over a period of some months. Half of the variation is likely to be due to loading and weight factors, the other half due to the influence of the weather (Ref: “Factors affecting measured aircraft noise and the use of NVLs”, LADACAN, May 2014).
2. Different departure procedures can result in significant changes of between 1.5 and 2dB(A) in peak noise at the fixed noise monitors for a given aircraft type, due to the difference in altitude achieved at the monitoring location (Ref: “Effect of departure procedure change on A320 noise and altitude at Luton Airport”, LADACAN, Dec 2013).
3. Measuring noise at just one location during a departure track does not provide any information about the relative noise experienced by communities closest to and those more distant from the airfield, nor does it enable the variation in noise due to load and weather to be assessed at those different distances.
4. Any noise control scheme based upon the use of this single datum, regardless of whether Noise Violation Limits are QC- based or fixed, is potentially open to “abuse of procedure” whereby aircraft flight profiles are adjusted so that they are able to throttle back when passing over the noise monitor.
5. A single peak noise datum gives no indication about the duration of time for which the noise was above any given “annoyance threshold” – in other words, for how long it persisted for those on the ground.
6. Even if flights by and large remain below a fixed “noise violation limit”, the overall mix of aircraft noisiness beneath that limit could increase over time rather than reduce.

### **History of aircraft departure noisiness at Luton Airport**

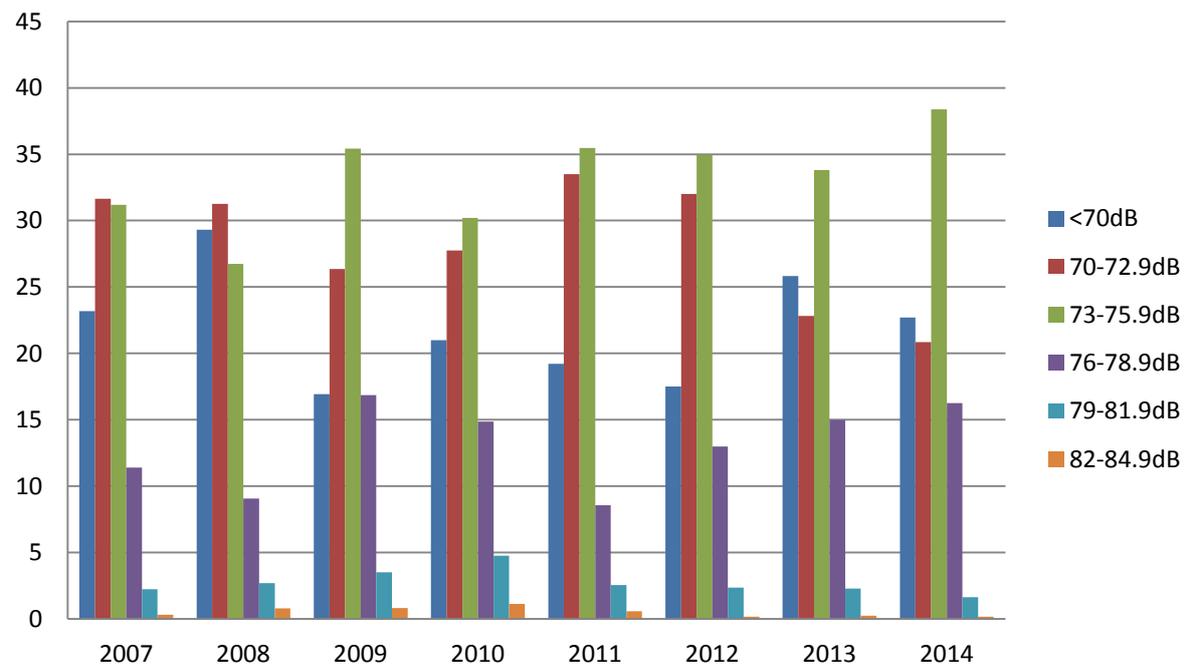
The LLAOL Annual Monitoring Reports provide figures each year for the numbers of correlated noise events for aircraft departures across different 3dB(A) noise bands by day and by night. The trends in those figures – in particular the relative shifts from band to band over time – give an indication of the changing mix of departure noisiness. The graphs below show the departure noise band mix for the years 2007-2014, first by day and then by night.

### Day: % departures by noise band, 2007-2014



The trend for daytime departures is broadly a reduction over time of the percentage of departures falling into the two quieter bands below 73dB(A), and an increase over time in those falling into the noisier bands 73dB(A) and above. Even if the cutoff for “quieter” is taken as 76dB(A) at the monitors, the percentage of daytime departures in the noisier bands is broadly holding steady and certainly not reducing over time.

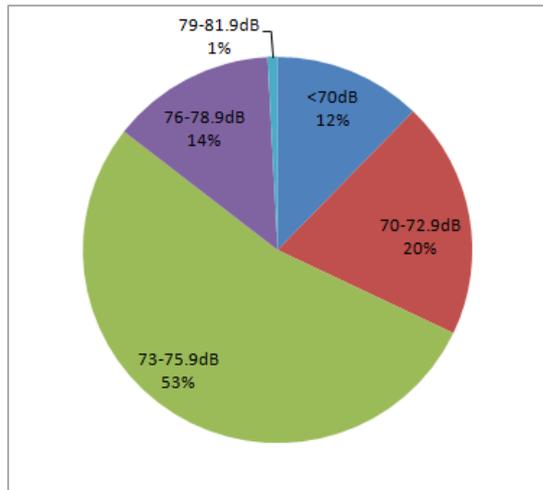
### Night: % departures by noise band, 2007-2014



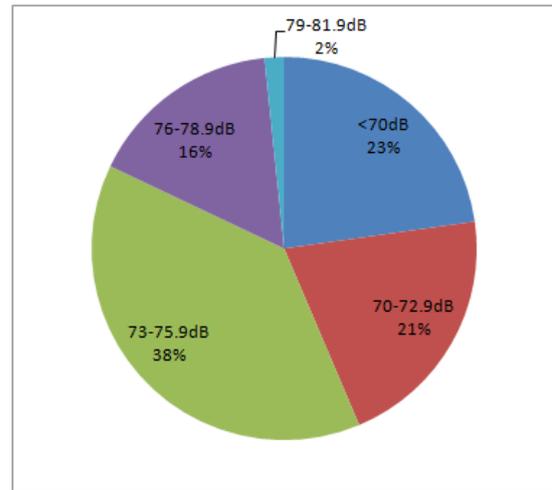
At night, the trend is again not moving towards a quieter mix. Taking a threshold at 73dB(A) between quieter and noisier, the percentage of departures in the quieter bands has overall reduced, with a corresponding and significant increase in the proportion of noisier flights at night. If the cutoff is set at 76dB(A), the proportion of flights in that band has increased steadily since 2011.

This shows that noise control measures over the past 8 years have not been effective in reducing the mix of “noisier” daytime departures as a proportion of total departures – and depending where the threshold is set, it can be argued that the proportion of noisier flights is in fact increasing over time.

Using the data from the 2014 Annual Monitoring Report, a comparison between the noisiness mix of daytime and night-time departures can be performed as follows:



*Daytime departures by noise band*



*Night-time departures by noise band*

This shows that the mix of flights includes a greater proportion of noisier flights at night than by day, where “noisier” is taken as 76dB(A) or louder at the noise monitors. Since it is generally accepted that aircraft noise is a far more sensitive issue with local communities – including South Luton – than noise by day, this is clearly an unwelcome state of affairs which Condition 11i should redress.

### **Has the regime proposed by LLAOL proven effective in the past ?**

The current NVL-based regime at Luton Airport is based on a single NVL for daytime departures and a lower one for night, and it is clear that the current NVL values are ineffective in driving down noise over time based on historic performance. Since 2007, the mix of aircraft departure noise at Luton has moved into higher noise bands, as shown in the previous section. Similarly, the mix of aircraft flown during the more sensitive night period is noisier than the mix of aircraft flown by day.

In both respects the NVL values selected by LLAOL have not had the effect of incentivising the use of quieter aircraft over the past 8 years, if overall noise mix is taken into account. They have remained for far too long at levels which are too high to be effective: in the period 2007-2014 only two daytime departures in total were fined. Therefore the daytime NVL has historically had no effect at all on noise levels. Similarly only 40 aircraft have exceeded the 82dB(A) night-time NVL since 2007 – again hardly a level of penalty likely to have any measurable effect.

Whilst the recent reductions in night NVL to 80dB(A) and daytime NVL to 82dB(A) are welcome, they do not go far enough to drive down noise. It is specious for LLAOL to argue that they have set the strictest noise controls of any London airport - the fact is that Luton’s runway is too short for wide-bodied jets, and so a comparison with other London airports is simply inappropriate. Luton’s noise control measures need to reflect and be appropriate for the local operating conditions.