Review of Heathrow's noise mitigation schemes

Response by the Aviation Environment Federation

1. Introduction

1.1 The AEF is the principal environmental association in the UK concerned specifically with the environmental effects of aviation. The Federation's membership comprises over 100 residents' groups, amenity and environmental organisations and local authorities around the UK's airports and airfields.

1.2 The AEF has responded to this consultation because, while it refers specifically to Heathrow, the issues raised by the consultation are of wider relevance, especially as Heathrow's makes a significant contribution to the total aircraft noise exposure in the UK.

2. Individual and societal impacts

2.1 Noise impacts can viewed in two different ways. Individual impacts look at the noise levels experienced by individual expressed, for example, in noise contours. Societal impacts look at the numbers of people affected by different levels of noise to derive an overall measure of nuisance.

2.2 The distinction between individual and societal impacts is highly relevant in the context of this consultation. Abolishing the Cranford Agreement means some re-distribution of noise. There is a widespread view that noise should be spread as evenly or equitably as possible; this means that noise levels for individuals are capped at as low level as possible. However, doing so can increase the total or societal impacts. AEF considers that both individual and societal impacts are important.

3. Cranford agreement

Comments in this section are preceded by the relevant paras in the consultation document.

1.9 says "*It [Cranford Agreement] was introduced when departure noise was considered more disruptive than noise from arriving aircraft*." This implies that departure noise is now less or equally disruptive than noise from arriving aircraft. Aircraft on takeoff remain much nosier than those landing, due to the engines being on high power when taking off. While the relationship between departure and approach noise has become more complex, we would stress that departure noise remains an important issue on which BAA must retain a focus.

1.10-1.11. "*Equitable*" and "*fair*" need to be carefully defined if valid conclusions are to be reached. While spreading noise around might be considered equitable, giving very different amounts of noise to different people may well not be. Aircraft taking off over Cranford will be far noisier than aircraft over, say, Windsor, because Cranford is adjacent to the airport and aircraft are

much lower. It is highly questionable whether giving residents of Cranford much more noise in order to reduce noise by a much smaller amount for residents in Windsor is equitable or fair.

1.12, 1.15. Statements about numbers of residents who will experience increases and decreases are only part of the picture. The amount of increase or decrease is at least as important as the number of residents.

4.13 does not show the full picture. While those areas and household experiencing increased noise are categorised in two bands (+1 to +3dB increase and >3dB) those experiencing reduced noise are lumped into one band (>1dB). One cannot therefore compare the overall net impacts, which are a function of both the areas/households affected and the amount by which they are affected.

1.8-1.16. The whole section it appears to be trying to justify the ending of the Cranford Agreement. As this was a government decision, we see no reason why BAA should need to defend it.

2.17 Table 1 shows areas, households and community buildings affected within contours without the Cranford Agreement. However, it does not show the corresponding figures with the Cranford Agreement. The key issue of the effect of the Cranford Agreement is thereby obscured.

4. Proposed changes to schemes

Comments in this section are preceded by the relevant paras in the consultation document.

3.4 table 4. The table gives a comparison of the current and proposed schemes for home insulation. While the introduction of the 3 zones and extension noise insulation from 69dB down to 63dB may seem a huge improvement, scrutiny shows that the situation is not that simple. At the same time as lower Leq limit is specified, the contours are re-defined from 1994 levels to (forecast) 2014 levels. The effect is huge – the new 69dB contour is less than half the size of the old one. We assume the change is due mainly to phasing out of some noisier aircraft, particularly the handful of Concord flights. Use of L_{den} instead of daytime L_{eq} may also have an effect, but it is not obvious in which direction.

3.4 table 4 contd. The reason why re-defining of contours is important is that a noise level of, say, 69dB in 1994 does not represent the same level of disturbance or annoyance as a noise level of 69dB now or in 2014. The annoyance is now higher. This was demonstrated by the ANASE study. One of the reasons for this is well recognised. L_{eq} and L_{den} are heavily weighted by the noise of individual aircraft whereas noise perception and disturbance are less weighted than L_{eq} and L_{den} by the noise of individual aircraft and more by the number of noise events. (It is in recognition of the fact that disturbance is not well correlated with the standard metrics that BAA has held workshops attended by, among others, AEF.)

3.4 table 4 contd. Because a particular noise figure, expressed as Leq or Lden, represents an increasing level of annoyance, the changes in the scheme are not as generous as might be assumed from reading the table. Zones 1 and 2 together are a similar area to that covered by the existing scheme and the terms are slightly better (100% of double glazing costs met by BAA in Zone 1 instead of 50%). This is welcome. Zone 3 significantly extends the area covered by noise insulation. This too is welcome. However, for the reasons explained above, it is unclear how much of this apparent improvement in terms of area covered by the scheme is offset by increasing noise nuisance.

3.4 table 5. The area and thus number of buildings affected is only slightly unchanged. Given the effect of increasing annoyance with time for a particular Leq or Lden, this may well represent a net worsening of the scheme.

3.5 table 6. The table indicates that residents in Zone 1 will be offered a better deal than before. This is welcome. However, residents who are in Zone 2 but were covered by the current scheme will get a worse deal. Zone 2 significantly extends the area covered home relocation assistance. This is welcome. However, for the reasons explained in comments on table 4 above, it is unclear how much of the apparent improvement in terms is offset by increasing noise nuisance.

5. Major omissions of the schemes

5.1 It is recognised that there can be considerable noise nuisance from aircraft where Lden is 55dB and appreciable noise nuisance down to about 50dB. But an outstanding feature of the scheme is that only areas experiencing more than 63dB are offered any assistance.

5.2 Table 1 shows the area and number of households within the 55dB contour. The numbers are respectively are 5 (225.2/44.8) and 10 (313.0/30.6) times larger than numbers that would be covered by the BAA scheme.

5.3 Areas and households within a 50dB contour are not shown but we can estimate these roughly by extrapolation. The ratios between areas and households within the 55 and 63dB contours can be expressed as a ratio per dB (ratio per dB is the ratio between 55dB and 63dB the power of 1/8). The ratio per dB can then be used to extrapolate from 55 down to 55dB. The result is that the area and number of households within the 50dB contour are respectively 14 and 44 times greater than those covered by the BAA scheme.

5.4 These ratios are remarkably large. They show that the number of households covered by the proposed BAA scheme is only a very small proportion of those affected by aircraft noise. They show that the scheme offers no assistance or compensation to the vast majority of people affected by aircraft noise. Viewed in this way, the scheme is inadequate and does not meet its full external costs, undermining the statement on the BAA web site "*We believe the aviation industry should pay its external costs*."
(http://www.baa.com/portal/site/baa/menuitem.693bb6bba3c15c6935ebbee59328c1a0/)

5.5 We note that the Heathrow Noise Action Plan cites the 2003 White Paper and the latter indicates that assistance should be offered to properties exposed to 63dB or more. But this does not little for the majority of people affected by aircraft noise. Nor does the ATWP prevent BAA offering a scheme which extends to lower noise contours. It is also worth noting that the government considers that the 2003 White Paper is out of data and is developing a new aviation strategy. The new Heathrow mitigation scheme should be flexible enough to take account of any new noise policies that emerge from the strategy.