HILLINGDON
LONDON

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Heathrow Community Relations
The Compass Centre
Nelson Road
London Heathrow Airport
Hounslow
TW6 2GW

28th July 2011

Dear Sir or Madam,

Re: Review of Heathrow's noise mitigation schemes: A Heathrow Airport consultation 9 May to 1 August 2011

This letter is submitted on behalf of the London Borough of Hillingdon in response to the above consultation.

Section 1: ENDING OF THE CRANFORD AGREEMENT

Ending the Cranford agreement will allow a system of runway alternation on days of easterly operation, so that there would be easterly departures from the north runway and easterly arrivals on the south runway for one half of the day, and easterly departures on the south runway and easterly arrivals on the north runway for the other half of the day. The London Borough of Hillingdon recognises that ending the Cranford agreement may have some benefits with easterly operations in redistributing some departures noise to the east of the airport, however these are offset by increased noise levels to the north and north-east of the airport. Ending the Cranford agreement will have serious local noise impacts to residents in Hillingdon for the reasons explained below.

The operational ending of the Cranford agreement would introduce regular easterly departures from the north runway for the first time. The easterly departures on the north runway would result in residential areas in Longford being seriously affected by departure noise. The "start of roll" component of departure noise with a succession of departures for half the day would cause serious noise disturbance in Longford. Longford would also be affected by noise from aircraft taxiing and queues of aircraft departing easterly from the north runway. To the north and north east of the airport, residential areas in Sipson and

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Harlington would be seriously affected by noise from airborne aircraft departing in an easterly direction.

“Start of roll” noise is an intrusive and subjectively unpleasant component of departure air noise occurring when an aircraft commences its take-off run along the runway. It takes the form of a sudden, loud roaring noise when the thrust of the engines of a departing aircraft is increased at the start of the aircraft’s take-off run. The departing aircraft is often not visible since it is still on the ground. Start of roll noise contains a large low frequency content, which means it is less attenuated by screening of buildings and other noise barriers, and is more penetrative of building structures. Its low frequency content also means its noise impact is not adequately represented by the A-weighting used in noise indicators such as L_{den} and $L_{Aeq,16h}$.

Start of roll noise is hidden in the L_{den} and $L_{Aeq,16h}$ air noise contours since these are average mode contours determined by averaging noise from westerly departures and arrivals, and easterly departures and arrivals. The predominance of westerly departures over easterly departures, with the typical runway split of 70% westerly / 30% easterly, also tends to hide start of roll noise of easterly departures.

The above factors all tend to increase the impact of start of roll noise well beyond that which might be expected from a consideration of average mode L_{den} and $L_{Aeq,16h}$ noise contours. Because start of roll noise comprises a series of intermittent noise events, use of additional event noise indicators such as $L_{Amax,Fast}$ should be considered.

On days of easterly operations, aircraft departing from the north runway would taxi from the terminal buildings to the west end of the north runway 09L. These taxiing aircraft would generate taxiing noise. Aircraft taxiing noise is known to contain unpleasant tonal components which would be expected to make the noise more disturbing to local residents. Furthermore, it is likely that queues of aircraft would build up adjacent to the west end of runway 09L. The total taxing noise at any one time would comprise taxiing noise from a number of aircraft either travelling to the runway or waiting in a queue prior to take off.

Another factor increasing noise impact at Longford concerns the distance to runway threshold 09L compared with corresponding distances for residential properties nearest to the other runway thresholds 09R, 27L, 27R. For runway 09R (easterly south runway), distance from threshold to residential properties at Russell Drive, Stanwell Moor, is around 720m. For runway 27L (westerly south runway), distance from threshold to residential properties at Cain’s Lane, Bedfont, is around 465m. For runway 27R (westerly north runway), distance from threshold to residential properties at Malvern Avenue, Cranford Cross, is around 720m, while distance to residential properties in Waye Avenue, Cranford, is around 1360m. With ending of the Cranford agreement, there would be an additional runway threshold for easterly departures from runway 09L. For runway 09L (easterly north runway), distance from runway threshold to residential properties at Bath Road, Longford, would be only 250m. This is around half the distance of 465m for the closest of the other three runway thresholds. A reduction in distance of half could increase noise levels by around 6 dB assuming point source noise propagation.

The above analysis shows that residential properties in Longford are very much closer to their adjacent runway threshold than are residential properties in Cranford Cross, Bedfont and Stanwell Moor. Furthermore, purpose-built noise barriers are provided to mitigate noise from use of runway 27R and 09L. Because of these factors, start of roll noise and aircraft taxiing levels associated with use of runway runway 09L would be much higher and consequently

much more disturbing in Longford than at the other residential locations nearest to the thresholds of the other runways 27L, 27R and 09R.

The Government's decision to end the Cranford agreement was based on a consultation which was fundamentally flawed. This is because noise impacts were only considered in terms of average westerly/easterly mode $L_{Aeq,16h}$ air noise contours using A-weighted noise levels. Those average mode contours hide the air noise effects of ending the Cranford agreement, such as start of roll noise which will be experienced in Longford. Because the consultation was based on air nose contours, there was no consideration whatsoever of ground noise impacts, such as increased aircraft taxiing noise in Longford.

In order to obtain the operational ending of the Cranford agreement, a number of operational and infrastructure preparations are necessary. These preparations include the provision of new taxiways serving the north and south runways, which will require planning permission from the London Borough of Hillingdon. The preparations required to enable the operational ending of the Cranford agreement may also enable mixed mode use of the existing two runways. Mixed mode use of the existing two runways was considered in the Government consultation of November 2007 "Adding capacity at Heathrow airport". The decision document issued in January 2009 by the previous Government decided against supporting mixed mode use. The decision document stated that the Secretary of State *"has concluded, on balance, that the benefits of mixed mode do not outweigh the impacts*". That decision was supported by the present Government. In a statement of 7th September 2010, the Minister of State for Transport stated that the Government is *"firmly committed to retaining runway alternation and will not approve the introduction of mixed mode operations at Heathrow. This Government believes that any potential benefits mixed mode might bring to the airport are outweighed by the negative impact such operations would have on local communities."*

Ending the Cranford agreement would involve regular easterly departures from the north runway for the first time. "Start of roll" noise, airborne noise and aircraft taxiing noise associated with these departures would have serious noise impacts on residential areas in Longford, Sipson and Harlington. We believe that the Government's decision to end the Cranford agreement was based on a consultation which was fundamentally flawed because noise impacts were only considered in terms of average westerly/easterly mode air noise contours using A-weighted noise levels, and there was no consideration of ground noise. Hillingdon is strongly opposed to ending the Cranford agreement. Furthermore, Hillingdon would strongly resist any attempt to introduce mixed mode runway use following operational ending of the Cranford agreement. We consider it essential to retain runway alternation, segregated mode and the 480,000 annual limit on air transport movements in order to avoid additional serious noise impacts.

Section 2: MITIGATION AND COMPENSATION FOR ENDING CRANFORD AGREEMENT

In confirming the Government's decision to end the Cranford agreement, the Minister of State for Transport stated on 7th September 2010 *"I will look to BAA to ensure that proper consideration is given to appropriate mitigation and compensation measures for those likely to be affected by the proposals."* It is important to note that the above Government statement requires consideration of both mitigation and compensation. If the operational ending of the Cranford agreement is inevitable, Hillingdon will seek provision of the best noise mitigation measures and best compensation for residents of the borough.

The proposed residential daytime noise mitigation scheme is based on use of the 63 dB L_{den} contour as an outer boundary (with L_{den} determined for 2014 without the Cranford agreement). There is no provision specifically based on noise increases caused by ending the Cranford agreement. We believe that there should be mitigation specifically for mitigating noise increases caused by ending the Cranford agreement.

The Government's Aviation White Paper "The Future of Air Transport" of 2003 contained provisions for mitigating and compensation noise impacts. In order to address the noise impacts of future airport growth, the airport operator was expected to offer acoustic insulation to any residential property exposed to a noise level of 63 dB $L_{Aeq,16h}$ with a noise increase of 3 dB or more. The Government consultation document "Adding Capacity at Heathrow Airport" of 2007 consulted on the issues of provision of a third runway and ending the Cranford agreement.

The Government decision document "Adding Capacity at Heathrow: Decisions Following Consultation" of 2009 asked the airport operator to consider extending its noise insulation schemes to all community buildings and households in the new 57 dB $L_{Aeq,16h}$ contour which will experience an increase in noise of 3 dBA or more. While these provisions mainly relate to noise increases associated with provision of a third runway, they also seem relevant to noise increases caused by ending the Cranford agreement.

We believe that the recommendation in the Government's 2009 decision document to offer insulation at 57 dB $L_{Aeq,16h}$ where this is accompanied by a 3 dB increase is significant. It appears to suggest that particular attention should be given to households experiencing noise increases as a result of changed aircraft operations at the airport. This could be achieved either through offering sound insulation at a lower absolute noise level if accompanied by the given noise increase, or by making the offer of sound insulation more generous or more comprehensive.

We believe that noise increases caused by ending the Cranford agreement should be treated at least as generously as noise increases that would have been caused by provision of a third runway. The Government issued a consultation document "Developing a Sustainable Framework for UK Aviation: Scoping Document" in March 2011 regarding scoping of a new Aviation Policy Framework. Paragraph 1.14 states that the present Government has committed to producing a sustainable framework for UK aviation to replace the previous administration's Aviation White Paper "The Future of Air Transport" of 2003. It also states that many of the provisions of the 2003 AWP "give insufficient weight to the local environmental impacts of aviation".

We therefore believe it would be appropriate to use a lower noise increase threshold of 1 dB for triggering noise insulation for increases in aircraft noise, in line with the Noise Insulation Regulations for roads and railways, rather than 3 dB as mentioned. We believe that particular attention should be given to households within the 55 dB L_{den} which experience a noise increase of at least 1 dB as a result of the operational ending of the Cranford agreement.

In addition, we believe that installation of a noise barrier should be considered in order to protect residents of Longford from increased air and ground noise associated with ending of the Cranford agreement. The noise barrier would require planning permission, which would have to take into account any adverse impacts of the noise barrier, such as visual impact. The provision of such a noise barrier would mitigate "start of roll" air noise from easterly

departures on the north runway, and ground noise associated with easterly departures from aircraft queuing and taxiing in the areas around the western end of the north runway. Depending on its extent, the noise barrier may also mitigate air noise from reverse thrust associated with easterly arrivals on the north runway as occur at present. Noise barriers already exist to the south west of Terminal 5 and adjacent to Terminal 4, and both comprise a concrete wall.

The Government statement of 7th September 2010 required BAA to consider compensation as well as mitigation measures for those likely to be affected by ending of the Cranford agreement. Many residents of Longford and Harlington bought their properties in the knowledge that aircraft departures from runway 09L would not be permitted because of the Cranford agreement. If they had known that the agreement would eventually be ended, this may have influenced their decision to buy in the area. It also seems likely that the value of their properties will be reduced by the increased noise levels to which they are exposed as a result of ending of the Cranford agreement. This is particularly true of Longford. We would ask for consideration of the provision of financial compensation to residents to cover increased noise disturbance and reduced property values caused by ending of the Cranford agreement.

We believe that particular attention should be given to households experiencing increases in air noise as a result of ending the Cranford agreement. This could be achieved either through offering noise insulation at a lower absolute noise level if accompanied by the given noise increase, or by making the offer of noise insulation more generous or more comprehensive. We believe that particular attention should be given to households within the 55 dB L_{den} which experience a noise increase of at least 1 dB as a result of the operational ending of the Cranford agreement. We also believe that particular attention should be given to households experiencing increased ground noise as a result of ending the Cranford agreement. Furthermore, financial compensation should be paid to residents to compensate for increased noise disturbance and reduced property values caused by ending of the Cranford agreement.

We have also recently received a letter from the DfT Minister of State dated 14 July 2011. That letter refers to proposals for exploring a set of operational freedoms at Heathrow to enable greater use of tactical measures in defined and limited circumstances to prevent or mitigate disruption of flights and to facilitate recovery. The letter recognises that on the occasions when these tactical measures would be used some communities would experience aircraft noise during current respite periods. The Council is concerned at the potential implications of the Government's proposed tactical measures and that any changes in noise impact that arise from tactical measures must be reflected in appropriate noise mitigation strategies.

Section 3: RESIDENTIAL DAYTIME NOISE INSULATION SCHEME

The proposed outer boundary for the residential daytime noise insulation is the 63 dB L_{den} for 2014 (without Cranford agreement). L_{den} contours are inherently larger than than $L_{Aeq,16h}$ contours for the same numerical value, and take into account the evening and night periods, albeit through 5 and 10 dB penalties respectively which some consider to be fairly arbitrary.

The choice of the L_{den} noise metric in setting the outer boundary has been made on the basis of consistency with the Environmental Noise Directive 2002/49/EC "The assessment and management of environmental noise". The directive requires mapping down to 55 dB L_{den}. European Environment Agency (EEA) Technical report No. 11/2010 "Good practice guide on noise exposure and potential health effects" is intended to assist policymakers, competent authorities and any other interested parties in understanding and fulfilling the requirements of the directive.

The EEA report suggests that the threshold of 55 dB L_{den} used for mapping in the directive is intended to delimit the area where noise is considered to be a problem. The EEA report accepts that use of the current threshold noise level of 55 dB L_{den} is understandable as a first step because of the of the large scale noise mapping required. However, the report points out that Member States are free to choose their own noise thresholds from where to start action planning, and the L_{den} threshold for mapping of 55 dB L_{den} does not take into account differences that exist between different noise sources. The EEA report implies that the threshold for noise mapping where aircraft noise is considered to be a problem should be significantly lower than 55 dB L_{den} as currently used.

While Heathrow is the busiest international airport in the world and has one of the highest population densities in its surrounding area, its insulation scheme is one of the least generous in the UK. Schemes at several other airports such as Gatwick, Edinburgh and the proposed scheme at Aberdeen have qualifying areas based on the 66 dB $L_{Aeq,16h}$ contour. Some schemes, such as those at Birmingham, Liverpool and Robin Hood Doncaster, are based on the 63 dB $L_{Aeq,16h}$ contour. The most generous scheme in the UK is believed to be the scheme at London City airport which is based on the 57 dB $L_{Aeq,16h}$ contour.

As mentioned, the residential noise scheme at London City airport is based on the 57 dB $L_{Aeq,16h}$ noise contour. Analysis of L_{den} and $L_{Aeq,16h}$ aircraft noise contours for Heathrow in 2006 shows that, at any given receiver location, L_{den} is approximately 2 dB (to nearest whole dB) higher than $L_{Aeq,16h}$. A noise level of 57 dB $L_{Aeq,16h}$ at Heathrow therefore corresponds to approximately 59 dB L_{den}. We believe that the Heathrow scheme should be at least as generous as the scheme at London City airport based on 57 dB $L_{Aeq,16h}$ contour, approximately equivalent to the 59 dB L_{den} contour. Furthermore, following the recommendations of the EEA report, we believe the outer boundary of the residential daytime noise insulation scheme should extend to at least the 55 L_{den} noise contour. We believe that the proposed outer boundary of 63 dB L_{den} does not protect all those who are affected by aircraft noise.

The proposed residential noise insulation scheme provides 100% of cost of double glazing for households in zone 1 of the scheme. However, the percentage costs of double glazing paid for households in zones 2 and 3 of the scheme are only 50% and 25%. We believe that BAA as the airport operator should pay the full cost of double glazing to mitigate noise from aircraft using Heathrow airport.

A number of residents will be worse off under the proposed daytime noise insulation scheme than they are under the current scheme. Under the proposed residential daytime noise insulation scheme, properties falling outside the boundary of zone 2 (enclosing an area of 26.3 sq km) but inside the 1994 69 dB $L_{Aeq,18h}$ contour (area of 27.3 sq km) will have their percentage of double-glazing costs met by BAA reduced from 50% to 25%, and their eligibility for free secondary glazing will be lost. BAA propose to deal with the above

properties under transition arrangements to be settled in their final scheme. These arrangements must give affected home-owners ample notice and opportunity to take up the current offer of mitigation.

The existing residential noise mitigation scheme is completely inflexible for owners of historic assets, such as listed buildings. The owners of historic assets are faced with a one size fits all glazing system which is in the vast majority of cases harmful to the appearance of the historic building (the owners are unable to obtain planning or listed building consent so cannot benefit from the current noise mitigation scheme). In practice the current residential noise mitigation scheme excludes the owners of historic assets due to its inflexibility. It is considered that there are many different possible solutions such as secondary glazing that could be used. In essence a bespoke service needs to be provided for owners of historic assets so that they are not excluded from the residential noise mitigation scheme.

We believe that the proposed outer boundary of 63 dB L_{den} does not protect all those who are affected by aircraft noise. We believe that a much larger outer boundary than the 63 dB L_{den} contour is appropriate. Following the recommendations of the European Environment Agency report, we believe the outer boundary of the residential daytime noise insulation scheme should extend to at least the 55 L_{den} noise contour. Also, BAA should pay the full cost of double glazing in proposed zones 2 and 3, rather than the proposed contributions of 50% and 25%. This is because we consider it appropriate for the airport operator to pay the full cost of mitigating noise from aircraft using the airport. Furthermore we consider that a specialist noise mitigation scheme should be developed for owners of historic assets, who we consider are prejudiced against due to the inflexibility of the current double glazing offer that is provided.

Section 4: RESIDENTIAL NIGHT NOISE INSULATION SCHEME

Paragraph 3.6 of the consultation document states that the proposed residential daytime noise scheme incorporates a measure of night noise. This is merely a by-product of using L_{den} contours which incorporate 5 and 10 dB penalties respectively to evening and night periods. No specific changes are proposed to be made to the current Night Noise Insulation Scheme which runs until October 2012. BAA intends to wait to see how the Government proposes to set future noise controls on night flights at Heathrow.

We believe that an entitlement to noise insulation based on L_{den} does not provide adequate protection against night noise. This is because L_{den} can conceal night noise within a weighted total. We believe that separate and specific provision should be made for insulation against noise from night flights. We support a continuation of the present night noise insulation scheme in which bedroom noise insulation is based on a "worst night noise event" criterion. Currently, the area within the 90 dB SEL footprint for an arrival by the noisiest variant of B747 aircraft is used to determine the area within which night noise insulation is available.

We note that no specific changes are proposed to be made to the current Night Noise Insulation Scheme. We are, however, concerned that BAA considers that the proposed residential noise insulation scheme incorporates a measure of night noise because it is based on L_{den}. We believe that an entitlement to noise insulation based on L_{den} does not provide adequate protection against night noise. This is because

L_{den} can conceal night noise within a weighted total. We believe that separate specific provision should be made for insulation against noise from night flights. We support a continuation of the present night noise insulation scheme in which bedroom noise insulation is based on a "worst night noise event" criterion.

Section 5: GROUND NOISE

Paragraph 4.12 of the consultation document states that BAA will be investigating ways to mitigate ground noise impacts of ending the Cranford agreement and invites views on how this can be achieved. This is a recognition that ground noise impacts have not been considered in the consultation document.

The L_{den} noise contours used to determine eligibility for noise mitigation relate only to air noise and do not include ground noise. Ground noise such as noise from aircraft taxiing on the ground is a significant issue for residents of Hillingdon borough living in areas near the airport. These areas include parts of Longford, Sipson and Harlington. Noise from aircraft engine testing, particularly at night, can also be a problem. We believe that specific provision should be made to insulate residential properties against airport ground noise in order to protect residents living near the airport in Hillingdon and other boroughs.

A BAA consultation "The Gatwick Noise Insulation Scheme for Homes" dated March 2007 consulted on details of proposed residential noise insulation schemes for the then BAA Gatwick Airport. It recognised that in certain situations, such as noise from ground operations, particularly at night, mitigation in the form of noise insulation is appropriate. Indeed, the scheme proposed at that time included houses within 500 metres of the airport operational boundary as being eligible which in that situation equated approximately to an average night noise exposure of 45 dB $L_{Aeq,T}$.

In view of the proximity of residential areas in Hillingdon and other boroughs to sources of airport ground noise at Heathrow, specific provision should be made on the residential noise insulation scheme for insulation against all forms of airport ground noise including aircraft taxiing noise and aircraft engine testing.

Section 6: COMMUNITY BUILDINGS NOISE INSULATION SCHEME

We note the proposal to base eligibility for the Community Buildings Insulation Scheme on the 2014 63 dB L_{den} air noise contour. We consider this scheme should extend to the 55 dB L_{den} air noise contour.

Section 7: HOME RELOCATION ASSISTANCE SCHEME

A number of residents will be worse off under the proposed scheme than they are under the current scheme. Under the proposed Home Relocation Assistance Scheme, properties falling outside the boundary of zone 1 (enclosing an area of 13.0 sq km) but inside the 2002 69 dB $L_{Aeq,16h}$ contour (area of 16.3 sq km) will have the maximum relocation assistance reduced from £12,500 to £7,500. We note that BAA propose to deal with these properties under transition arrangements to be settled in the final scheme. These arrangements must give affected home-owners ample notice and opportunity to take up the current offer of mitigation. This should not be overlooked.

Yours faithfully,

Jean Palmer,
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London Borough of Hillingdon