Overview

London City Airport (LCA) has operated one of the most stringent noise management schemes of any airport in the UK since opening in 1987. LCA’s short runway, steep approach and departure angle and other operational controls make it different from most other airports, with every aircraft that operates from LCA specifically certified to meet strict technical and environmental performance standards.

This Noise Action Plan outlines LCA’s extensive commitments to monitor and mitigate the impacts of aircraft noise from its site over the next five years.

Due to the city-centre location of LCA and its close proximity to residential, business and commercial properties, the Airport has, since opening, committed through legal agreement with the Local Authority (London Borough of Newham) to operate a noise management scheme. In 2009, after receiving planning permission to increase flight movements, LCA committed to implementing an upgraded programme of noise monitoring and mitigation for the future, which is outlined in Section 2.0 of this document as an Action Plan.

LCA recognises that aircraft noise is an important issue for communities living and working nearby the Airport. This Noise Action Plan, in accordance with guidance from the Department for Environment, Food and Rural Affairs, outlines the actions LCA will take to ensure that it operates responsibly to manage the impact of aircraft noise on our neighbours.
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1.0 Introduction

1.1 Noise Action Plan: Purpose and Scope

All major UK airports are required to prepare a Noise Action Plan (NAP) under The Environmental Noise (England) Regulations 2006 (as amended). These regulations were introduced to comply with the European Directive 2002/49/EC Assessment and Management of Environmental Noise, commonly known as the Environmental Noise Directive (END). This is a new requirement for UK airports.

END requires NAPs to aim to limit and, where possible, reduce the number of people significantly affected by aircraft noise. This is to be done by establishing the Airport’s noise impact based on the Strategic Noise Maps for 2006 (see Appendix A), considering whether or not the existing noise control measures provide adequate protection for the local community compared with Government and EU guidelines and regulations and then making an Action Plan to last for five years. (2010-2015 in this instance).

London City Airport (LCA) opened in 1987, and has grown in response to the development and regeneration of East London. LCA takes environmental noise very seriously, and works closely with Local Authorities and partners to make sure that noise is managed.

Strict planning requirements have been agreed with LCA and the local planning authority (now the London Borough of Newham (LBN)) since 1987. This limits the noise level produced by aircraft departing the Airport as well as restricting opening times.

The NAP is based on the Defra guidance for Airport Operators issued in March 2009. It considers whether the current noise control measures are sufficient with respect to LCA’s 2006 operations, and also describes other measures that will be introduced over the coming years to further mitigate the impact of the Airport’s operations on the local community.

In 2007 all major UK airports were required to prepare Strategic Noise Maps under the Environmental Noise (England) Regulations 2006, based on aircraft movements during 2006. These maps were produced by LCA and submitted to the Secretary of State for Transport for publication by Defra. It is a Defra requirement that the NAP is based on these 2006 maps. LCA has also considered in the actions of this NAP the impacts of future growth at the Airport to 120,000 flight movements per year, as approved in 2009 by the LBN. The NAP will therefore make sure that adequate noise protection continues until the next Strategic Noise Map is produced in 2012.

Strategic Noise Maps are not only focused on airports, they have to be produced every 5 years for all agglomerations near major roads which have more than 6 million vehicle passages a year, major railways which have more than 60,000 train passages per year as well as major airports with more than 50,000 annual aircraft movements.

The NAP will be reviewed at regular intervals (at least every 5 years) and revised if necessary, for example when a new development affects the existing noise levels.

2 Planning Obligation by Deed of Agreement under Section 106 of the Town and County Planning Act 1990 relating to London City Airport, Royal Docks, London E16 2PX, 9th July 2009. This is an agreement to allow annual aircraft movements to increase to 120,000 per year while meeting stringent environmental noise restrictions.
1.2 London City Airport

1.2.1 Airport Location

LCA is located within the London Borough of Newham, 10 miles from the West End of London, and 6 miles from the City of London. The operational runway (09/27) is 1199 metres long, and is bordered by the Royal Albert Dock to the north and King George V Dock to the south. Nearby transport routes include North Woolwich Road to the west, the A1020 dual carriageway, known as Royal Albert Way, to the north, and the Docklands Light Railway to both the north and south. Apart from noise created by operations at LCA, the ambient noise environment is made up of a number of sources including general road traffic, the Docklands Light Railway, Heathrow and other air traffic, helicopters and local industry.

1.2.2 Airport Operations

In 2006, LCA had a total of 79,436 aircraft movements. Of these, 66,129 were aircraft movements serving the general public, and carried approximately 2.358 million passengers. In July 2009, planning permission was granted by LBN to increase LCA’s total number of annual aircraft movements to 120,000. In 2011 LCA had a total of 68,100 aircraft movements.

LCA serves a mostly business market, with flights to cities in the UK, Europe, and the USA.

2.0 Noise Management

2.1 Noise Management at London City Airport

Due to its city-centre location and close proximity to residential, business, and commercial properties, the noise management measures in force at LCA are among the most stringent in the UK.

Noise management is a key element of LCA’s efforts to minimise the environmental impact of its operations on the local area. This commitment is demonstrated by the low number of noise complaints which have been received over the years (0.9 per 1000 flight movements in 2010/11).

As described earlier in this NAP, planning approval was granted on 9th July 2009 (after extensive public consultation during the period August 2007 to April 2009) to increase aircraft movements at LCA over the coming years. The planning application included a detailed assessment of the environmental noise impact arising from airport operations both in 2006, the baseline for the application, and in the future.

The planning approval is testimony to the acceptability of the existing noise control measures and additional new measures proposed to protect local communities in future. The measures are described in the following sections of the NAP.

2.2 Environmental Complaints

LCA has an environmental complaint Management System by which anyone can contact the Airport to register a complaint or request information about airport operations. Communication can be either by telephone, post, email or via the LCA website.

Each complaint or enquiry is registered by the Airport, investigated, responded to and resolved where practical. All environmental complaints and enquiries are reported to the LBN and a summary of these provided quarterly to the LCACC.

Figures 2.1 and 2.2 present the number of environmental complaints received by LCA since April 2000 per 1,000 aircraft movements and the absolute annual number, respectively. These are categorised as following:

i) Aircraft noise – including all airborne aviation issues such as traffic frequency, flight paths, aborted approaches etc.

ii) Ground noise – including aircraft and non-aircraft sources of noise such as engine runs, plant, generators, construction, road noise, maintenance and and bird-scaring activities.

iii) Air quality – such as odours.

iv) Other – non-aviation related complaints such as alleged TV signal interference.

v) Non-LCA – complaints regarding air traffic not associated with this airport.
2.3 Current Noise Management Measures

LCA has implemented schemes to mitigate the noise impact of aircraft operations. These, together with the short runway length and steep approach angle, limit the types of aircraft which can use the Airport.

2.3.1 Noise Categorisation

All aircraft operating at LCA are required to demonstrate their ability to operate within five departure Noise Categories, as shown in Table 2.1.

<table>
<thead>
<tr>
<th>Category of aircraft</th>
<th>Noise Reference Level dB</th>
<th>Noise Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>91.6 – 94.5</td>
<td>1.26</td>
</tr>
<tr>
<td>B</td>
<td>88.6 – 91.5</td>
<td>0.63</td>
</tr>
<tr>
<td>C</td>
<td>85.6 – 88.5</td>
<td>0.31</td>
</tr>
<tr>
<td>D</td>
<td>82.6 – 85.5</td>
<td>0.16</td>
</tr>
<tr>
<td>E</td>
<td>Less than 82.6</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Table 2.1 – Aircraft Noise Categories

The Noise Reference Level is the departure noise level as measured at four Noise Categorisation Points (NCPs) as shown on Plan P1 in Appendix C. It is expressed in PNdB and calculated using an established procedure described in the 2009 Section 106 Agreement between the Airport and the LBN.

As this table demonstrates, LCA has an upper noise limit of 94.5 PNdB.

In summary, the categorisation procedure involves the following:

i) Before any aircraft type is permitted to operate at LCA, Provisional Noise Categorisation must be approved by the LBN. This is based on monitored flight trials and manufacturers’ data.

ii) Each year, a review of the noise categorisation is undertaken by LBN, based on results of the previous 12 months’ noise monitoring, whereupon the Categorisation of each type is confirmed or amended. On occasion the review may result in an aircraft type having its permission to operate at LCA withdrawn.

2.3.2 Airport Operating Hours

The existing approved operating hours have been maintained under the 2009 planning approval. The Airport is permitted to operate flights between the following hours:

i) 06.30 and 22.30 on weekdays

ii) 06.30 and 13.00 on Saturdays

iii) 12.30 and 22.30 on Sundays

iv) 09.00 and 22.30 on Public or Bank Holidays

v) Full closure on 25th December

There is a 24 hour period of closure from Saturday lunchtime to Sunday lunchtime.

The final 30 minutes of operation on every day of the week is solely for flights scheduled earlier which have been unavoidably delayed.
2.3.3 Aircraft Movement Limits and Noise Factors

In July 2009 the LBN granted planning permission to increase the total number of permitted aircraft movements to 120,000 per year, including both scheduled and private operations. Strict limits are also applied to the number of daily aircraft movements. These include:

i) 100 per day on Saturdays, 200 per day on Sundays, but no more than 280 on any consecutive Saturday and Sunday

ii) 592 per weekday, except for Public or Bank Holidays, specifically:

   iii) 132 on 1st January
   iv) 164 on Good Friday
   v) 248 on May Day
   vi) 200 on 23rd May Bank Holiday
   vii) 230 on late May Bank Holiday
   viii) 100 on 26th December

There are also limits for aircraft movements which occur during specific operational periods:

x) 400 aircraft movements per calendar year or 150 in any consecutive 3 months between 22.00 and 22.30 hours, or 12.30 and 13.00 hours on a Saturday

xi) 6 aircraft movements between 06.30 and 06.59 hours with no more than 2 in the first fifteen minutes.

The 120,000 aircraft movements per year limit also applies to Noise Factored movements. All aircraft movements have a numerical factor applied (see Table 2.1), which relates to the level of departure noise each aircraft produces, e.g., the loudest aircraft type has a noise factor of 1.26, the quietest, 0.08. Noise Factored movements should also not exceed the permitted number of aircraft movements for that week by more than 25%.

2.3.4 Departure and Arrival Procedures

The routes flown to and from any major UK airport are prescribed by Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs). These departure and arrival routes are established by the Civil Aviation Authority. The UK Aeronautical Information Publication (AIP) for LCA outlines the restrictions on aircraft operators and aircraft movements to control noise. These procedures include:

i) Standard noise abatement procedures for aircraft departing the Airport following the Standard Instrument Departure (SID) instructions

ii) Minimum requirements for aircraft departing LCA to climb straight to a minimum of 1000 feet above airport level (aalt) before turning on track unless otherwise instructed by Air Traffic Control (ATC)

iii) Aircraft approaching LCA to follow a descent path which will result in the aircraft not being lower at any point than the altitude prescribed by the Instrument Landing System (ILS)

iv) A minimum altitude of 1,500 feet for aircraft carrying out visual approaches (where the airport is clearly in the pilot’s sight) until established on the final approach (within approximately four miles of the airport)

v) Instructions for following holding patterns over the airfield.

In addition to the above, aircraft approaching LCA follow a steep approach angle of 5.5 degrees (compared to 3 degrees in place at other airports) which helps keep aircraft higher for longer, reducing the noise impact on local communities.

2.3.5 Sound Insulation Scheme

LCA’s sound insulation scheme offers sound insulation for eligible properties within the 57 dB L_{Aeq,16h} noise contour. Since the scheme began in 1991 LCA has successfully sound insulated 2,900 homes and spent over £1.3 million on this scheme. The eligibility daytime noise contour level (57 dB L_{Aeq,16h}) is much more stringent than that used at other UK airports. Some local homes are not eligible as they were built after the Airport’s agreement with the LBN. Therefore building regulations require developers to install adequate sound insulation during construction of the property as developers would be aware of the permitted airport operations before commencing development. A detailed list of the residential properties treated by LCA and those currently undergoing improvements is available on the LCA Consultative Committee website: www.lcacc.org/noise.

2.3.6 Noise and Track Keeping (NTK)

The noise levels produced by aircraft arriving at and departing from LCA are currently monitored by a four-point noise monitoring system. Two noise monitors are located at each end of the runway in the form of a ‘gateway pair’. Each pair is located approximately 2 kilometres from the runway’s Start of Roll (SOR) (see Appendix C).

When an aircraft arrives or departs it passes between the monitors and an average noise level is calculated by the system. The measurements are used in the noise categorisation process and general noise management at LCA. The Track Keeping system records each aircraft arrival and departure. This provides a management tool to observe the flight path of individual aircraft.

The Noise and Track Keeping system (NTK) is also accessible by the LBN.
2.4.4 Sound Insulation

- A new two-tier scheme building on the existing scheme to offer enhanced sound insulation to properties within the 66 dB L_{eq,16h} noise contour and 10 yearly inspections to previously treated properties.

2.4.5 Noise Insulation Payment Scheme

- A payment scheme to be made available to fund any additional works required as a result of the recent LCA planning approval which affects approved developments as yet un-built as of 9th July 2009.

2.4.6 Sound Screen Scheme

- Strategy to be approved by LBN and implemented by July 2010.

2.4.7 Ground Noise Study

- Scheme starts Dec 2011

2.4.8 Aircraft Categorisation Review

- Review eligible developments and submit draft scheme to LBN by July 2010

### Table 2.2 - Future Noise Management Measures

<table>
<thead>
<tr>
<th>Noise Action Plan Section</th>
<th>Action</th>
<th>Summary Details</th>
<th>Timescale¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4.6</td>
<td>Sound Screen Study</td>
<td>A study of the existing sound screens at LCA and implementation of recommended upgrades following this.</td>
<td>Study to be submitted to LBN by October 2010</td>
</tr>
<tr>
<td>2.4.7</td>
<td>Ground Noise Study</td>
<td>A study of ground noise leading to implementation of recommended measures to mitigate its effects in the local area.</td>
<td>July 2010 and then every three years</td>
</tr>
<tr>
<td>2.4.8</td>
<td>Aircraft Categorisation Review</td>
<td>A review of the procedure currently used to assess the noise impact of individual aircraft as outlined in Table 2.1.</td>
<td>By July 2011</td>
</tr>
</tbody>
</table>

¹The timescale given in provisional only based on the original requirements of the Section 106 Agreement relating to the planning permission granted on 9 July 2009 for an increase in annual aircraft movements to 120,000. Owing to the judicial review of that permission, LCA was not legally required to progress these measures until the review was determined by the Court and planning permission upheld (15 June 2011); however, LCA is still seeking to meet the target dates given.

### 2.4.1 Improved Noise Monitoring and Mitigation Strategy (NOMMS)

LCA has agreed to implement a new Noise Monitoring and Mitigation Strategy (NOMMS), developed in agreement with the LBN. This new strategy is intended to replace the existing NTK system and upgrade the current noise management scheme to provide a more robust system of noise monitoring. Relevant to the NAP, it will include:

- A new combined noise and track keeping system which shall run in parallel with the existing system for the first full year following implementation,
- Minimising noise disturbance arising from the operation of any aircraft overhaul facility or from aircraft at the approved ground running location, or generally from any aircraft ground noise source,
- Use of a calculation procedure in accordance with INM to calculate the 57, 66 and 69 dB noise contours, and use of data from noise monitoring,
- Use of a calculation procedure in accordance with INM to calculate the 57, 66 and 69 dB noise contours, and use of data from noise monitoring,
- As far as practicable, measures to minimise the impact of development outside the Airport on the integrity of the NOMMS,
- Limits on the use of Auxiliary Power Units (APUs) before departure and after landing,
- Encouraging minimum use of reverse thrust on landing consistent with safety constraints.
2.4.2 Future Two-Tier Sound Insulation Scheme (Residential)

The previous sound insulation scheme, providing sound insulation to eligible properties within the 57 dB $L_{A_{eq},16h}$ noise contour, will continue. In addition, properties within the 66 dB $L_{A_{eq},16h}$ noise contour now receive enhanced sound insulation. These are known as the First-Tier and Second-Tier schemes.

Noise contours will continue to be produced every year, compliant with approved European calculation methodology, to ensure that airport growth or any operational changes are taken into account. These noise contours, along with information on when properties were built, will be used to determine eligibility for sound insulation treatment. No application to the scheme will be necessary; all eligible properties are published as part of LCA's annual reporting requirements under the Section 106 Planning Agreement, following which owners and occupiers will be contacted by the Airport’s contractors.

Most residential properties within the Second-Tier Scheme have already been treated under the First-Tier scheme, and should already have secondary or double glazing as a minimum – the scheme will therefore offer secondary glazing to existing double glazed properties and/or contributions towards replacement high performance acoustic laminated glass, and sound attenuating ventilators.

In addition to the expansion of the scheme explained above, all residential properties that have already been treated under the scheme will be offered a free inspection 10 years after the initial installation with rectification works carried out as necessary to ensure the sound insulation standard does not decline over time.

2.4.3 Noise Insulation Payment Scheme

New residential developments within the 57 dB $L_{A_{eq},16h}$ noise contour for 120,000 aircraft movements which received planning permission but had not yet been built as of 9th July 2009, will benefit from a noise insulation payment scheme which will be made available to fund any additional works anticipated as a result of LCA’s planning approval which go beyond any pre-agreed planning conditions with regard to external sound insulation.

2.4.4 Future Two-Tier Sound Insulation Scheme (Public Buildings)

All public buildings in community use within the 57 dB $L_{A_{eq},16h}$ and 66 dB $L_{A_{eq},16h}$ noise contours are to be treated on an individual basis. Any assessment will be based on the function of the building, along with the numbers of people using it. Treatment where eligible will be focussed on providing adequate sound insulation to protect from aircraft noise.

Those public buildings that have/are being treated or inspected under the (2009) sound insulation scheme are listed here:

<table>
<thead>
<tr>
<th>Public Building</th>
<th>Location</th>
<th>London Borough</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrews Street Tenants and Residents Association Hall</td>
<td>Camel Road, London E16 2DE</td>
<td>Newham</td>
</tr>
<tr>
<td>Britannia Village Hall</td>
<td>Evelyn Road, London E16 1TU</td>
<td>Newham</td>
</tr>
<tr>
<td>Britannia Village Primary School</td>
<td>Westwood Road, London E16 2AW</td>
<td>Newham</td>
</tr>
<tr>
<td>Kennard Street Health Centre</td>
<td>Kennard Street, London E16 2HR</td>
<td>Newham</td>
</tr>
<tr>
<td>Richard House Children’s Hospice</td>
<td>Richard House Drive, London E16 3RG</td>
<td>Newham</td>
</tr>
<tr>
<td>St John’s Church</td>
<td>Albert Road, London E16 2JB</td>
<td>Newham</td>
</tr>
<tr>
<td>St John’s Church Centre</td>
<td>Albert Road, London E16 2JB</td>
<td>Newham</td>
</tr>
<tr>
<td>St John’s Church Vicarage</td>
<td>Albert Road, London E16 2JB</td>
<td>Newham</td>
</tr>
<tr>
<td>Storey School Building</td>
<td>Woodman Street, London E16 2LS</td>
<td>Newham</td>
</tr>
<tr>
<td>Winifred Street Children’s Centre</td>
<td>Winifred Street, London E16 2NX</td>
<td>Newham</td>
</tr>
<tr>
<td>Woodman Street Community Hall</td>
<td>Woodman Street, London E16 2NF</td>
<td>Newham</td>
</tr>
<tr>
<td>Woolwich Polytechnic School</td>
<td>Hutchins Road, London SE28 8AT</td>
<td>Greenwich</td>
</tr>
</tbody>
</table>

2.4.5 Purchase Offers

In the event that any properties fall within the 69 dB $L_{A_{eq},16h}$ eligibility noise contour in the future, LCA will make an offer to purchase the property at the open market value within 6 months of the owner/occupier making an application for the Airport to do so.

2.4.6 Sound Screen Study

LCA completed a study of the existing Camel Road Sound Screen during 2010 in order to determine any improvements that could be made to enhance noise attenuation properties. This study has been approved by the LBN and will be reviewed every three years as part of the Ground Noise Study.

2.4.7 Ground Noise Study

In 2010 LCA completed a study of ground noise, which will be repeated at intervals of not less than three years. This will be submitted to LBN for approval and any recommendations implemented following their approval.

2.4.8 Aircraft Noise Categorisation Review

By July 2011 the Airport, in agreement with the LBN, will carry out a review of the aircraft noise categorisation procedures in order to reassess the methodology, noise categories, noise reference levels and the noise factors used for categorisation with the aim of providing further encouragement for aircraft using LCA to limit noise levels.

9 www.londoncityairport.com/AboutUs/NoiseAndTrackKeeping.aspx
3.0 Assessment of Noise Management Measures (Current and Future)

3.1 2003 Air Transport White Paper (ATWP): The Future of Air Transport

As outlined in Section 4.2.3 of the NAP, the ATWP requires airport operators to:

i) Offer households subject to high levels of noise (69 dB L_{Aeq,16h} or more) assistance with the cost of relocating

And following airport growth:

ii) Offer to purchase those properties suffering from both a high level of noise (69 dB L_{Aeq,16h} or more) and a large increase in noise (3 dB L_{Aeq} or more).

The noise contours produced for the END Strategic Noise Maps show that no properties currently lie within the 69 dB L_{Aeq,16h} noise contour. In addition, for properties close to the Airport, LCA offers a sound insulation scheme which uses the much lower 57 dB L_{Aeq} noise contour, and is being expanded to offer additional sound insulation to future properties within the 66 dB L_{Aeq} noise contour. LCA also intends to work with the LBN to help ensure that planning requirements ensuring adequate sound insulation for new developments are enforced.

3.2 London Borough of Newham Planning Requirements

LCA has recently (2007-2009) been through a detailed planning application process which involved scrutiny by the LBN as well as by other stakeholders and interested parties. LBN established that the environmental noise impact of existing operations at LCA (based on 2006 noise contours and the proposed increase in aircraft movements to 120,000) was acceptable.

In order to ensure a continuation and improvement of pre-existing noise control measures, LCA has introduced a number of measures aimed to limit and/or reduce noise. These measures include the expansion of LCA’s sound insulation scheme, the new Noise Monitoring and Mitigation Strategy, NOMMS, and the commissioning of studies into ground noise and sound screens as outlined in 2.4.

3.3 2002 Environmental Noise Directive (END)

One of the requirements of the Environmental Noise (England) Regulations 2006 (as amended) is that ‘quiet areas’ should be protected.

Further guidance on quiet areas is to be published by Defra including the areas in each agglomeration that are defined as quiet areas. At time of writing, Defra has yet to advise local authorities within LCA’s NAP consultation area of any AONBs: no local authority has confirmed the existence of formally identified ‘quiet areas’ within their boroughs.

4.0 Evaluation and Implementation

The evaluation and implementation of the noise management measures outlined in this NAP will be carried out under the terms of the 2009 Section 106 Agreement, accessible via the LBN website. This gives a series of requirements for reporting on the performance of LCA’s noise control measures and for the reporting of environmental noise complaints.

In summary:

i) Quarterly, the Airport issues to the LBN the numbers and type of aircraft that have operated over the preceding three months.

ii) Annually, the Airport issues an Annual Performance Report to the LBN which includes information on the performance of noise management measures for the previous year. This is published on the LCACC and LCA websites and includes details of:

- L_{Aeq,16h} average summer day (summer typically being more noisy than winter) noise contours for the previous year (actual) as well as for the current year (predicted)
- Eligibility boundaries for the sound insulation scheme
- Any properties which lie within the 69 dB L_{Aeq,16h} contour for the previous year
- Properties eligible for inspection and/or sound insulation works under the sound insulation scheme
- Developments in respect of which payments have been made under the Noise Insulation Payments Scheme

iii) All environmental complaints to the LBN within 15 days of that complaint being made or any action being taken. A summary of environmental complaints is also provided to the LCACC at each meeting, and also as part of the Annual Performance Report.

iv) A temporary noise monitoring strategy (to be implemented until the development of (NOMMS)) has been agreed with the LBN which aims to minimise the loss of noise monitoring data from the existing NTK system and requires quarterly reporting of the system’s operating status for the preceding three months.

v) By 2011, LCA will fully implement the new Noise Monitoring and Mitigation Strategy (NOMMS), developed in agreement with the LBN. This will include a new NTK system, details of penalties and incentives schemes to encourage quiet operating procedures, control of ground noise and methods for the calculation of noise contours (see Section 2.4.1).
5.0 Long Term Strategy

Following extensive consultation, LCA issued its Master Plan in November 2006. The Master Plan, developed in response to the UK Government’s ATWP, The Future of Air Transport (published in 2003), consists of plans for increasing LCA’s capacity in phases to accommodate up to 171,000 movements per annum, in line with Government Policy to maximise use of existing airports in the South East.

The ATWP Progress Report 2006 acknowledges the London City Airport Master Plan aspiration and potential to grow to 8 million passengers per annum by 2030.

The growth and development of LCA will occur in response to real market demand; it is not LCA policy to build or expand its operations speculatively. The Master Plan was produced to inform future planning policies for the local area and the forward planning of other stakeholders – it does not and cannot itself increase the number of permitted movements at LCA; the current limit on aircraft movements remains at 120,000 as specified in the July 2009 permission.

A summary of the developments required to meet the phased development aspirations of the LCA Master Plan (2006) are given in Table 5.1.

The London City Airport Master Plan is available at www.londoncityairport.com/masterplan.

Any further growth at LCA would be subject to a detailed planning application process including an Environmental Statement which would assess a range of topics in depth, including noise.

LCA fully expects that in order to grow the Airport further in the future, that all environmental impacts including noise would require further mitigation measures.

### Table 5.1 - Master Plan Summary

<table>
<thead>
<tr>
<th>Phase</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1</strong></td>
<td>Up to five new aircraft parking stands built over King George V Dock (completed 2008). Further aircraft parking for corporate Jet Centre at western end of airport site. Extension to Jet Centre building (completed 2009). Extension to main terminal building on western side on land isolated by DLR railway line and station. A new purpose-built Airport Fire Station. An aircraft hangar at the western end of the site to allow aircraft maintenance. A support building to accommodate airline ground handling and engineering. Docklands Light Railway (DLR) extended from King George V under the Thames to Woolwich (completed in early 2009).</td>
</tr>
<tr>
<td><strong>Phase 2</strong></td>
<td>Five further scheduled aircraft parking stands could be built over the King George V Dock to increase aircraft handling capacity. Access to the runway from aircraft stands could be improved by the construction of a taxi-lane running the length of the runway to join with the runway hold point. Terminal building further extended on eastern side. Vehicle pick-up and drop-off area extended eastwards over the current short-term car park. Provision of a multi-storey car park on the site of the existing car park to include car hire services. Relocation of the fuel storage facility to the eastern end of the airport site. Extension to hangar building. Vacant land at the eastern end of the site currently on long-term lease to the airport could be developed for either airport related uses (should demand dictate) or non-aviation related medium density mixed-use development.</td>
</tr>
<tr>
<td><strong>Phase 3</strong></td>
<td>A further area of apron and terminal pier could be built to accommodate up to five scheduled aircraft stands. This extension would allow the temporary closure of the original terminal for re-modelling work to split the building into distinct areas for arriving and departing passengers. New air traffic control tower provided in newly realigned terminal. The terminal drop-off zone and associated public transport facilities extended eastwards.</td>
</tr>
</tbody>
</table>

6.0 Conclusions

London City Airport has prepared this Noise Action Plan as required under The Environmental Noise (England) Regulations 2006 (SI 2006/2238) (as amended). This Noise Action Plan is produced on the results of noise mapping for the Airport based on 2006 aircraft movements as required by Defra. The main purpose of the Noise Action Plan is to establish the noise impact of the Airport, and to consider whether the current noise management measures are sufficient to adequately protect the local community, particularly those worst affected.

An assessment of LCA’s noise impact has been carried out by independent consultants based on:

i) Relevant guidance and legislation

ii) The current noise impact of operations at LCA shown by the results of the END Strategic Noise Maps

iii) The noise measures already in place at the Airport

The assessment has found that the environmental noise impact of existing operations at the Airport, based on both the 2006 noise contours and the approved increase in aircraft movements to 120,000, subject to the implementation of the measures described in Section 2 of the Noise Action Plan, are acceptable.
Glossary of Terms and Abbreviations

aal
above aerodrome level

Agglomeration
An area having a population in excess of 100,000 persons, and a population density equal to or greater than 500 people per km² and which is considered to be urbanised

AIP
Aeronautical Information Publication – publication updated every 28 days, containing information of a lasting character essential to air navigation

Aircraft movement
Any arrival or departure operation to or from the airport excluding flights for the purpose of training, positioning and/or evaluation flights

Altitude
Height above sea level

Ambient Noise
Usually expressed using LAeq,16h unit, commonly understood to include all sound sources present at any particular site, regardless of whether they are actually defined as noise

ANASE
Attitudes to Noise from Aviation Sources in Europe – a DfT study published in 2007

ANIS
Aircraft Noise Index Study

AONB
Areas of Outstanding Natural Beauty

APU
Auxiliary Power Unit – a power unit located on the aircraft to provide power to essential systems whilst on the ground

ATC
Air Traffic Control

ATWP
Air Transport White Paper

A-weighted
The human ear is not equally sensitive to sound at all frequencies, being less sensitive to sound at low and very high frequencies. When measuring sound it is often useful to ‘weight’ each frequency appropriately so that the measurement correlates better with the sound that a person would actually hear

Background Noise
This is the steady noise attributable to less prominent and mostly distant sound sources above which identifiable specific noise sources intrude

CAA
Civil Aviation Authority

dB(A)
A unit of sound pressure level, adjusted in accordance with the A weighting scale, which takes into account the increased sensitivity of the human ear at some frequencies

Decibel (dB)
The unit used to describe the magnitude of sound is the decibel (dB) and the quantity measured is the sound pressure level

DEFRA
Department for Environment, Food and Rural Affairs

DfT
Department for Transport

Dispersion
Due to the effect of the wind, aircraft speed and pilot choice, differing aircraft tracks about the nominal track are flown; this is known as dispersion around a nominal track

END
European Directive 2002/49/EC generally known as the Environmental Noise Directive (END)

EU
European Union

Frequency
Frequency is analogous to musical pitch. It depends upon the rate of vibration of the air molecules which transmit the sound and is measured as the number of cycles per second or Hertz (Hz). The human ear is sensitive to sound in the range 20 Hz to 20,000 Hz (20 kHz).

GPU
Ground Power Unit

Ground noise
Noise as a result of airport operations other than that associated with arriving and departing aircraft

ILS
Instrument Landing System

INM
Integrated Noise Model

LAeq,16h
The LAeq over the period 0700 – 2300, local time (for strategic noise mapping this is an annual average)

LBN
London Borough of Newham

LCA
London City Airport

LCACC
London City Airport Consultative Committee

Lday
The Lday over the period 0700 – 1900, local time (for strategic noise mapping this is an annual average)

Leq
The Leq over the period 0000 – 2400, but with the evening values (1900 – 2300) weighted by the addition of 5 dB(A), and the night values (2300 – 0700) weighted by the addition of 10 dB(A) (for strategic noise mapping this is an annual average)

LAeq
The A-weighted equivalent continuous sound pressure level which is a notional continuous level that, at a given position and over the defined time period contains the same sound energy as the actual fluctuating sound that occurred at the given position over the same time period
The LAeq over the period 1900 – 2300, local time (for strategic noise mapping this is an annual average)

The LAeq over the period 2300 – 0700, local time (for strategic noise mapping this is an annual average)

NAP
Noise Action Plan

NATS
Formerly known as National Air Traffic Services Ltd. NATS is licensed to provide en-route air traffic control for the UK and the Eastern part of the North Atlantic, and also provides air traffic control services at several major UK airports

Noise Contour
Map contour line indicating noise exposure in dB for the area that it encloses

Noise Factor
A numerical factor applied to a noise source, dependent on the time, type or level of noise produced.

Nominal Tracks
Using recognised international design techniques, tracks across the ground can be delineated for departing and arriving aircraft. These tracks are nominal because they can be influenced by the wind, ATC instruction, the accuracy of the navigational systems and the flight characteristics of individual aircraft. In the UK it is usual to permit a 1500 metre swathe to be established about the nominal track for the purposes of assessing whether an aircraft has stayed on track

NOMMS
Noise Monitoring and Mitigation Strategy

NPR
Noise Preferential Route – departure flight ground tracks to be followed by aircraft to minimise noise disturbance on the surrounding population

NTK
Noise and Track Keeping system

PNdB
Perceived Noise Level. Its measurement involves the analyses of the frequency spectra of noise events as well as the maximum level

PPG24
Planning Policy Guidance 24 – Planning and Noise

QC
Quota Count – the basis of the Night Restrictions regime at London’s airports

Radar Vectoring
Air Traffic Control provides aircraft with various instructions which result in changes of heading, altitude and speed. The controller effects safe separation from other traffic using radar

SID
Standard Instrument Departure Route

Sound
A physical vibration of air molecules, propagating away from a source, whether heard or not

Sound Transmission
In the open air, most sources of sound can be characterised as a single point in space. The sound energy radiated is proportional to the surface area of a sphere centred on the point. In decibel terms, every time the distance from a point source is doubled, the sound pressure level is reduced by 6 dB

SOR
Start Of Roll – the position on the runway where aircraft commence their take-off runs

STAR
Standard Arrival Route

Strategic Noise Map
Noise maps required by Defra to be produced every 5 years for the UK’s main sources of environmental noise

Threshold
The beginning of the portion of runway usable for landing

UDP
Unitary Development Plan
APPENDIX B
Legislative Structure for Noise Management

This section of the NAP describes and assesses the existing structure for the control of environmental noise from LCA.

European Regulations

1996 European Commission Green Paper
There are already a number of EU Directives which control noise from mechanical sources such as vehicles and outdoor machinery. In 1996, the European Commission issued a Green Paper which proposed a more general approach to controlling environmental noise by focusing on those exposed, rather than the specific source.

2002 Environmental Noise Directive (END)
In July 2002, the EU proposed an Environmental Noise Directive (END) relating to the assessment and management of environmental noise. It considers noise from road, rail, air traffic and industry. It looks at the impact of noise on individuals, and supports existing EU regulations for noise levels from specific sources.

The END requires members of the EU to create Strategic Noise Maps for agglomerations of major roads, railways and airports. NAPs also have to be produced, with the aim of managing environmental noise.

National Regulations

2003 Air Transport White Paper (ATWP): The Future of Air Transport
The Department for Transport (DfT), in its White Paper, The Future of Air Transport, sets out the Government’s plan for the development of air travel over the next 30 years. It stresses the importance of making the best use of existing infrastructure and potential airport capacity, and encourages growth at regional airports. In particular it states that small airports in the South East, such as LCA, have an important part to play in the future provision of airport capacity in the area, while also recognising a commitment to limit, and where possible reduce, the number of people in the UK significantly affected by aircraft noise.

2004 Planning Policy Guidance 24 (PPG24)
As well as providing guidance on managing the impact of a range of noise sources and land use, Planning Policy Guidance (PPG24) deals with new housing developments in relation to existing environmental noise. The relevant sections of this guidance are presented in Section 4.2 of the NAP.

2006 The Environmental Noise (England) Regulations (as amended)
The Environmental Noise (England) Regulations 2006 (as amended) are a direct result of the 2002 END. The Regulations were laid before Parliament on the 7th September 2006 and came into force on the 1st October 2006. All major airports, including LCA, are listed in the Environmental Noise (Identification of Noise Sources) (England) Regulations 2007.

In March 2007 the Civil Aviation Act 2006 came into force. The Act, among other things, strengthened and clarified powers to control aircraft noise and emissions, in line with the commitments in the 2003 White Paper “The Future of Air Transport. In particular, airport operators were given statutory powers to introduce noise control schemes and introduce penalty schemes for aircraft that breach noise limits.

Local Regulations
The Airport is located within the LBN and aircraft using the Airport principally fly over areas of Newham, Greenwich and Tower Hamlets. This section of the NAP discusses the noise policies for each of these London Boroughs and also London-wide regulations.

Policy 4A.20 of the London Plan Reducing Noise states that the Mayor of London and London Boroughs should reduce noise by minimising the existing and potential negative impact of noise on, from, within or in the vicinity of proposed developments. This should involve minimising noise to new noise sensitive developments from major noise sources where possible, supporting new technologies and improved methods of noise reduction especially in relation to road, rail and air transport which are often sources of ambient noise. The London Plan’s transport policies, together with the impact of quieter technologies, have been designed to assist in tackling the main sources of noise, stating that reducing aircraft noise should be a priority for the Government (the responsible body for airport regulation). At a local level, many of these sources can be addressed through good, considered design, management and operation.

Policy 3C.6 relates specifically to airport development and operation. It supports the development of a sustainable and balanced London area airport system, and recognises that further runway capacity in the South East will be required to meet London’s needs. Policy 3C.6 requires that airport operators give high priority to sustainability, including setting targets for and actively working towards increasing the share of access journeys by passengers and employees made by sustainable means, and taking full account of environmental impacts when making decisions on airport operations.

The Mayor’s Ambient Noise Strategy
The Ambient Noise Strategy is one in a series of strategies dealing with environmental issues in London. The main elements of the Strategy are reflected in the London Plan and, where appropriate, the Transport and Economic Development Strategies. Together they provide a basis for improving London’s environment and an integrated framework for sustainable development.

The Mayor’s Transport Strategy
The Mayor’s Transport Strategy recognises that for London, a world city and the international ‘gateway to the UK’, the provision of adequate airport capacity is important. It also recognises that London’s environment needs to be protected. It focuses mainly on London’s largest international airport, Heathrow, but mentions some of the noise control measures already in place at LCA. Noted also is that the Mayor supports the improvement of public transport access to the Airport.
2001 London Borough of Newham UDP

The 2001 Unitary Development Plan (UDP) is the LBN’s existing local development plan which sets the agenda for transforming and regenerating the LBN. It provides the land use planning framework for guiding physical change and development. The UDP states that regeneration is the key to unlocking the Borough’s potential as an attractive place to live and work. LBN’s approach is to harness the energies of every local organisation, private and public, to strengthen and diversify the economy, create a high quality environment, improve local people’s access to jobs and the image of the Borough. With regard to London City Airport, LBN’s UDP states:

“The Airport is a major strategic asset to the Borough and to London as a World City, linking business centres in the West End, City Docklands, East London and elsewhere in Thames Gateway with a wide range of European business destinations. It is an incentive to further development in the Royal Docks and is an important direct and indirect generator of employment. The Council’s policy towards London City Airport is one of support and encouragement in recognition of its strategic and economic importance to the Borough and sub-region.”

The UDP is due to be superseded by the Local Development Framework (LDF) once the LDF is adopted and approved as Newham’s development plan.

With regard to future development, Policy T31 of the LBN’s UDP states that noise levels from operators at LCA will be taken into account in determining applications for noise-sensitive developments within the vicinity of the airport. Policy EQ48 states that in considering planning applications for new noise-sensitive development, the Council will apply the concept of noise exposure categories in accordance with PPG24 and notes that the Council may require a demonstration of whether the site is suitable for the development proposed, or can incorporate mitigation measures.

Policy EQ47 requires an assessment of noise impact to be carried out where a proposed development is likely to produce a considerable increase in noise relating to its use. The UDP states that it will not permit further expansion of LCA beyond the limits set by the Secretary of State for the Environment in planning permissions (23rd May 1983, amended 26th September 1991 and 21st July 1998) unless it can be demonstrated that such development would not result in unacceptable effects on the local environment.

2006 London Borough of Greenwich UDP

The 2006 UDP sets out policies for the development of the London Borough of Greenwich until 2011 and in some instances 2016. The Borough is mainly residential and is considered sensitive to overflying by all types of air traffic, including Heathrow operations.

The Borough states that it will seek to reduce disturbance caused by existing noise and vibration by negotiating a reduction in activity where possible, installing improvement measures and, where appropriate, by encouraging relocation. The UDP is due to be superseded by the Local Development Framework (LDF) once the LDF is adopted and approved as Greenwich’s development plan.

1998 London Borough of Tower Hamlets UDP

The 1998 UDP sets out policies for the development of the London Borough of Tower Hamlets. Currently there are no policies within the transport or environmental sections of the UDP which refer to noise from overflying aircraft. The UDP is due to be superseded by the Local Development Framework (LDF) once the LDF is adopted and approved as Tower Hamlets’ development plan.
END Noise Maps

LCA has prepared Noise Maps under the Environmental Noise (England) Regulations 2006 (as amended). This formed part of a requirement for the Strategic Noise Maps under the Environmental Noise Directive (END).

Noise Maps were prepared based on actual aircraft movements during the calendar year of 2006, and used the prediction methodology Integrated Noise Model (INM) Version 6.2a. The maps were presented as noise contours, and were assessed for a number of noise parameters relating to the average noise level in decibels over specific periods of time.

While LCA’s operational hours are between 06.30 and 22.30, with a 24 hour period of closure at weekends, the assessment criteria within the END dictated that the following parameters were used:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Time Period (hh:mm)</th>
<th>Number of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lden</td>
<td>07.00 – 07.00</td>
<td>24</td>
</tr>
<tr>
<td>Lday</td>
<td>07.00 – 19.00</td>
<td>12</td>
</tr>
<tr>
<td>Levening</td>
<td>19.00 – 23.00</td>
<td>4</td>
</tr>
<tr>
<td>LAeq,16hr</td>
<td>07.00 – 23.00</td>
<td>16</td>
</tr>
<tr>
<td>Lnight</td>
<td>23.00 – 07.00</td>
<td>8</td>
</tr>
</tbody>
</table>

Table D1 – END Noise Map Parameters

Effects of Noise Exposure

The effects of aircraft noise on a community area are normally assessed in terms of the L_{Aeq,16hr} parameter, calculated using the number of aircraft movements over an average summer day (summer typically being more noisy than winter).

The END dictated that LCA’s Strategic Noise Maps include noise contours for the L_{Aeq,16hr} parameter calculated from the number of aircraft movements on an average annual day rather than a summer day. While this is not the standard period, it does not affect the shape or size of the contours to any significant degree.

Similar to the L_{Aeq,16hr} parameter is the L_{den} parameter. The key difference however is that the L_{den} parameter gives more significance to noise events that occur during the evening (19.00 – 23.00) and night-time (23.00 – 07.00) periods. Note that LCA only operates until 22:30 during the evening period, and between 06.30 and 07.00 during the night-time period defined by these parameters.

The Government has not yet published any guidance on how to interpret noise contours created in terms of L_{den}. The European Commission is, however, working to produce a relationship between the L_{den} parameter and community guidance.

1985 UK Aircraft Noise Index Study (ANIS)

Current Government guidance regarding the assessment of exposure to aircraft noise is based on published research relating to the onset of community annoyance from aircraft noise levels, the Aircraft Noise Index Study (ANIS).

While the Government recognises that the relationship between the level of noise and the resulting annoyance is not exact and varies
Planning Policy Guidance 24 (PPG24)

A summary of the Government guidance document PPG24 regarding daytime aircraft noise and its impact on new housing developments is given in Table D2 below.

<table>
<thead>
<tr>
<th>Noise Level dB $L_{Aeq,16h}$</th>
<th>Noise Exposure Category (NEC)</th>
<th>Guidance/Experience with regard to air noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 57</td>
<td>A</td>
<td>Noise need not be considered as a determining factor in granting planning permission, although the noise level at the high end of the category should not be regarded as a desirable level.</td>
</tr>
<tr>
<td>57 – 66</td>
<td>B</td>
<td>Noise should be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise.</td>
</tr>
<tr>
<td>66 – 72</td>
<td>C</td>
<td>Planning permission for housing should not normally be granted. Where it is considered that planning permission should be given, for example because there are no alternative quieter sites available, conditions should be imposed to ensure a commensurate level of protection against noise.</td>
</tr>
<tr>
<td>&gt; 72</td>
<td>D</td>
<td>Planning permission for housing should normally be refused.</td>
</tr>
</tbody>
</table>

Table D2 – PPG24 guidance with regard to daytime noise exposure

The guidance given in the PPG24 relates to new housing developments with respect to existing noise levels, rather than existing housing affected by changes in noise. It is generally accepted however that the levels presented in Table D2 are of great assistance when assessing the impact of daytime noise exposure.

2007 Attitudes to Noise from Aviation Sources in England (ANASE)
The ANASE report, published in 2007, considered whether the current understanding of the relationship between annoyance and aircraft noise levels was still relevant. The results suggested that the amount of annoyance for a given level of aircraft noise has increased since research carried out in 1985 (ANIS). However, following criticism of the report from peer reviewers, the then Aviation Minister, MP Jim Fitzpatrick, advised in a press statement that the report is not sufficiently robust to lead to a change in policy\(^8\). Therefore the assessment levels defined in ANIS remain valid for NAPs.

2003 Air Transport White Paper (ATWP): The Future of Air Transport

The ATWP requires airport operators to:

i) Offer households subject to high levels of noise ($69 \, \text{dB} \, L_{Aeq,16h}$ or more), assistance with the cost of relocating and following airport growth:

ii) Offer to purchase those properties suffering from both a high level of noise ($69 \, \text{dB} \, L_{Aeq,16h}$ or more) and a large increase in noise ($3 \, \text{dB} \, L_{Aeq}$ or more).
END Noise Mapping Results

This section sets out the results of the Strategic Noise Maps produced by LCA (found in Appendix A). The results include estimates of the area, number of dwellings and population covered by the noise contour bands for each parameter in 2006.

Area Contained in Each Noise Contour Band

<table>
<thead>
<tr>
<th>Contour Level (dB)</th>
<th>Area of ( L_{den} ) Air Noise Contours (km²)</th>
<th>Area of ( L_{day} ) (( L_{eq,12h} )) Air Noise Contours (km²)</th>
<th>Area of ( L_{evening} ) (( L_{eq,4h} )) Air Noise Contours (km²)</th>
<th>Area of ( L_{night} ) (( L_{eq,8h} )) Air Noise Contours (km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.24</td>
</tr>
<tr>
<td>50</td>
<td>20.04</td>
<td>19.05</td>
<td>18.60</td>
<td>0.49</td>
</tr>
<tr>
<td>55</td>
<td>7.85</td>
<td>7.41</td>
<td>7.45</td>
<td>0.26</td>
</tr>
<tr>
<td>60</td>
<td>2.84</td>
<td>2.65</td>
<td>2.65</td>
<td>0.13</td>
</tr>
<tr>
<td>65</td>
<td>0.94</td>
<td>0.89</td>
<td>0.87</td>
<td>0.04</td>
</tr>
<tr>
<td>70</td>
<td>0.41</td>
<td>0.40</td>
<td>0.39</td>
<td>N/A</td>
</tr>
<tr>
<td>75</td>
<td>0.22</td>
<td>0.22</td>
<td>0.21</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table D3 – Area within noise contour bands

Dwellings and Population in Each Noise Contour Band

Tables D4 to D8 (right) give estimates of the number of dwellings and people exposed to different noise levels for each parameter.

The dwelling and population exposure statistics presented in the below tables differ from those published in the Draft NAP for consultation. The reason for this change is that the Draft NAP for consultation contained data prepared by Defra on the basis of 2001 Census information. Defra used this base year in order to standardise data collection from strategic noise maps throughout England. It is recognised however that since 2001, significant development has taken place (and is continuing to take place) around LCA. The dwelling and population exposure statistics presented here have therefore been prepared by independent consultants, taking account of subsequent development around the airport, and therefore represent the statistics applicable in 2006, the date to which the Strategic Noise Maps in Appendix A relate.

Tables D9 to D13 (over page) give the number of noise sensitive buildings exposed to different noise levels for each parameter.

Table D4 – \( L_{den} \), estimated total number of dwellings and population above various noise levels

<table>
<thead>
<tr>
<th>Contour Level (dB) ( L_{den} )</th>
<th>Number of dwellings</th>
<th>Population count</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 55</td>
<td>8,200</td>
<td>17,800</td>
</tr>
<tr>
<td>≥ 60</td>
<td>1,200</td>
<td>2,700</td>
</tr>
<tr>
<td>≥ 65</td>
<td>&lt;50</td>
<td>&lt;100</td>
</tr>
<tr>
<td>≥ 70</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table D5 – \( L_{day} \), estimated total number of dwellings and population above various noise levels

<table>
<thead>
<tr>
<th>Contour Level (dB) ( L_{day} )</th>
<th>Number of dwellings</th>
<th>Population count</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 54</td>
<td>11,050</td>
<td>24,500</td>
</tr>
<tr>
<td>≥ 57</td>
<td>3,300</td>
<td>6,800</td>
</tr>
<tr>
<td>≥ 60</td>
<td>1,000</td>
<td>2,300</td>
</tr>
<tr>
<td>≥ 63</td>
<td>&lt;50</td>
<td>&lt;100</td>
</tr>
<tr>
<td>≥ 66</td>
<td>&lt;50</td>
<td>&lt;100</td>
</tr>
</tbody>
</table>

Table D6 – \( L_{evening} \), estimated total number of dwellings and population above various noise levels

<table>
<thead>
<tr>
<th>Contour Level (dB) ( L_{evening} )</th>
<th>Number of dwellings</th>
<th>Population count</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 54</td>
<td>10,800</td>
<td>23,900</td>
</tr>
<tr>
<td>≥ 57</td>
<td>3,450</td>
<td>7,200</td>
</tr>
<tr>
<td>≥ 60</td>
<td>1,000</td>
<td>2,300</td>
</tr>
<tr>
<td>≥ 63</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>≥ 66</td>
<td>&lt;50</td>
<td>&lt;100</td>
</tr>
</tbody>
</table>

Table D7 – \( L_{night} \), estimated total number of dwellings and population above various noise levels

<table>
<thead>
<tr>
<th>Contour Level (dB) ( L_{night} )</th>
<th>Number of dwellings</th>
<th>Population count</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 48</td>
<td>&lt;50</td>
<td>&lt;100</td>
</tr>
</tbody>
</table>

Table D8 – \( L_{night} \), estimated total number of dwellings and population above various noise levels
Summary of END Strategic Noise Mapping

Guidance on how to determine the acceptability of noise levels has been provided to airport operators by Defra which states that account should be taken of current legislation and guidance as well as any relevant local planning conditions. The assessment of aviation noise impact is normally expressed in terms of dB LAeq,16h. As this is the level which Government legislation marks as the point at which there is onset of significant community annoyance.

The 57 dB L eq,16h noise contour for operations at LCA extends into West Thamesmead in Greenwich and the eastern extremity of Blackwall in Tower Hamlets. Many of the eligible dwellings within the noise contour have been, or will soon be treated under the Airport’s sound insulation scheme (see Section 2.4.2). Recently built dwellings within the 57 dB L eq,16h noise contour should have been built in accordance with Local Authority planning conditions to ensure adequate sound insulation against aircraft noise.

There are fewer than 50 dwellings (<100 population) within the 66 dB L eq,16h noise contour. All other properties within the 57 dB L eq,16h noise contour are not exposed to levels higher than the equivalent Noise Exposure Category B as defined in PPG24 as 57 dB L eq,16h, to 66 dB L eq,16h.

There are no dwellings and no noise sensitive buildings located within the 69 dB L eq,16h noise contour.

There are fewer than 50 dwellings (<100 population) and no noise sensitive buildings within the 48 dB L eq, noise contour.

APPENDIX E

Public Consultation

This document was published in draft form for consultation over a 16 week period between Friday 25 September 2009 and Friday 15 January 2010.

The following documents were available on the Airport website for the duration of the consultation:

- Draft Noise Action Plan for Consultation (A4 document)
- Draft Noise Action Plan Summary (A4 document - electronic only)
- Feedback form

A total of 750 hard copies of the Draft NAP were printed for distribution and a number of communication activities were undertaken by the Airport during the consultation period.

A variety of communication channels were used to maximise awareness and participation in the consultation such as:

- Press releases
- Adverts in local press
- Local Libraries
- London City Airport website
- Community road shows
- Leaflet drop to 22,000 local households
- Airport Community Newsletter ‘Runway News’

There were written comments from organisations and individuals in the form of letters.

A detailed review of all consultation responses has been undertaken by LCA and its environmental noise advisors. Some points raised by respondents have been incorporated directly into the main text as an addition or amendment to the NAP. Comments and further questions raised by individual respondents are presented in Appendix G. The comments are ordered according to the chapters as they appeared in the Draft NAP with a response from LCA. Comments that were of a general nature, rather than specifically related to the Draft NAP, are addressed through the normal LCA public communication procedures.

Community road shows were widely advertised on the London City Airport website and via a leaflet drop to 22,000 local households over six weeks. Road shows were held between 1500 and 1900 at:

- Morrisons, Thamesmead (10/12/09)
- Gallions Reach Shopping Park, Beckton (9/12/09)
- Idea Store, Chrise Street, Poplar (16/12/09)
- Britannia Village Hall, West Silvertown (17/12/09)

Approximately 20 people in total attended the road shows.

Representatives from a wide range of organisations and groups were sent copies of the Draft NAP. A list of these organisations and groups can be found overleaf.

A variety of communication channels were used to maximise awareness and participation in the consultation such as:

- Press releases
- Adverts in local press
- Local Libraries
- London City Airport website
- Community road shows
- Leaflet drop to 22,000 local households
- Airport Community Newsletter ‘Runway News’

There were written comments from organisations and individuals in the form of letters.

A detailed review of all consultation responses has been undertaken by LCA and its environmental noise advisors. Some points raised by respondents have been incorporated directly into the main text as an addition or amendment to the NAP. Comments and further questions raised by individual respondents are presented in Appendix G. The comments are ordered according to the chapters as they appeared in the Draft NAP with a response from LCA. Comments that were of a general nature, rather than specifically related to the Draft NAP, are addressed through the normal LCA public communication procedures.

Community road shows were widely advertised on the London City Airport website and via a leaflet drop to 22,000 local households over six weeks. Road shows were held between 1500 and 1900 at:

- Morrisons, Thamesmead (10/12/09)
- Gallions Reach Shopping Park, Beckton (9/12/09)
- Idea Store, Chrise Street, Poplar (16/12/09)
- Britannia Village Hall, West Silvertown (17/12/09)

Approximately 20 people in total attended the road shows.

Representatives from a wide range of organisations and groups were sent copies of the Draft NAP. A list of these organisations and groups can be found overleaf.

A variety of communication channels were used to maximise awareness and participation in the consultation such as:

- Press releases
- Adverts in local press
- Local Libraries
- London City Airport website
- Community road shows
- Leaflet drop to 22,000 local households
- Airport Community Newsletter ‘Runway News’

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List of Consultees

In accordance with Defra Guidance, Section 4 Paragraph 4.4, the organisations below were consulted on the draft Noise Action Plan. Consultation on the draft plan took place between 25th September 2009 and 15th January 2010.

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<td></td>
<td>Bishop John Robinson CE</td>
<td>Ms B Brammer</td>
<td>Head Teacher</td>
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<td></td>
<td>Hawkesmoore School</td>
<td>Nicholas Prockter</td>
<td>Head Teacher</td>
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<td></td>
<td>Heronsgate Primary school</td>
<td>Ms M Wosiek</td>
<td>Head Teacher</td>
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<td>St Margaret Clitherow School</td>
<td>Mrs J Marchan</td>
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<td>Windrush Primary School</td>
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<tr>
<td>Public</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Website, Local press, Advertisements, Local libraries, Community Roadshows, Leaflet drop, Runway News (see pg 42)</td>
</tr>
</tbody>
</table>
London City Airport
Draft Noise Action Plan
CONSULTATION QUESTIONNAIRE

1. How much of the LCA Draft Noise Action Plan have you read? (please circle)
   - The Full Plan
   - Some of the Plan
   - Summary Document
   - None

2. Are you a (please tick one):
   - Local resident
   - Local business or business association
   - Voluntary or community organisation
   - School/College/University
   - Central Government
   - Public Body
   - Local Authority
   - Local pressure group
   - National pressure group
   - Other (please state)

3. Please complete the following details:

<table>
<thead>
<tr>
<th>Name</th>
<th>(Organisation)</th>
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<td>Address</td>
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<td>Email</td>
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</tbody>
</table>

   The Department for the Environment, Food and Rural Affairs requires that a schedule of all those individuals and organisations who responded to the consultation is included in the final Noise Action Plan. If you do not wish to be included in this schedule, please tick here. ☐

4. What do you think are the most important issues in relation to aircraft noise at London City Airport (LCA)?

5. To what extent do you think that the LCA Draft Noise Action Plan addresses these issues and why?

6. Were you aware that London City Airport had signed up to additional commitments with the London Borough of Newham to reduce noise impacts as a result of its new planning permission to increase flights to 120,000 over the coming years?

7. Would additional information on LCA’s website relating to the aircraft operating at the airport and their noise performance in the past twelve months be useful to you? (please specify)

8. What additional specific noise measures would you like to see implemented to reduce noise?

9. Do you have any other comments on the LCA Draft Noise Action Plan?

Thank you for providing your comments on the London City Airport Draft Noise Action Plan. Please return your completed questionnaire by FRIDAY 15 JANUARY 2010 to:

Kellie Heath, Consultation Administrator
London City Airport, City Aviation House, Royal Docks, London, E16 2PB
Consultation Responses

A broad range of comments regarding London City Airport and this Noise Action Plan were collected through the wide-ranging consultation undertaken by LCA.

These comments have been grouped into themes according to the chapters in this NAP and points have been responded to, where appropriate, by the Airport.

1.0 Introduction

Comment: ‘There is no recognition that more people have become disturbed by the noise in recent years as the number of jets using the airport has increased and as (until the recession) the overall number of planes had been increasing.’

‘Out of date data is used for the LCA NAP – the data used for the noise maps is from 2006, which is not relevant considering flight numbers are much higher in 2009/2010’

LCA Response:
The Environmental Noise Regulations require that the NAP assess the noise impact based on the 2006 Strategic Noise Maps. The proposed future noise control measures considered by the NAP have however taken into account the recent planning approval to increase movements, which consider in detail the likely impact of future operations and aircraft mixes and appropriate noise mitigation and management measures. This will ensure additional and adequate protection from noise arising from future aircraft operations. Furthermore, in 2009 LCA experienced 75,678 flight movements, less than the 79,436 in 2006, the year the END requires LCA to consider and as such we believe our assessment to be relevant to this plan, which will be updated every five years.

Comment:
LCA’s role as the competent authority to write the airport’s Noise Action Plan was questioned. The government’s decision to make airport operators responsible for drafting Noise Action Plans for their own airports created a conflict of interest.

LCA Response:
Under the Environmental Noise (England) Regulations 2006 (as amended), the Secretary of State has made airport operators of major airports such as London City Airport the competent authority for the preparation of Strategic Noise Maps and Noise Action Plans. This content of the NAP has been shaped through the consultation process to include comment from stakeholders. Although prepared by LCA, this Noise Action Plan is subject to the approval of the Secretary of State for Environment, Food and Rural Affairs.

END Noise Maps and Evaluation

Comment:
‘Despite constant references from the airport in this document that such noise monitoring is “stringent” due to strict planning rules by the planning authority, there has been a complete lack of commitment shown to the monitoring by London City Airport.’

LCA Response:
The strategic noise maps take into account the results of noise monitoring and contour validation work carried out by independent noise consultants. LCA is confident that the data used to produce the strategic noise contours are accurate and that the contours give a true indication of noise level exposure around the Airport. Furthermore LCA has a noise monitoring strategy to ensure data is collected from its noise monitors. The performance of LCA noise monitors is reported quarterly to the Consultative Committee.

Comment:
‘Recent research by the European Commission has indicated that people’s tolerance to aircraft noise has decreased significantly, calling into question the validity of existing guidance regarding noise above 57 dB ANL as the point representing the onset of significant community annoyance.’

‘The WHO organisation states that noise exposure can produce after effects that negatively effect performance in schools around airports.’

LCA Response:
A number of research studies relating to aircraft noise and annoyance/health effects have emerged in recent years. The Government has also commissioned and considered the results of their own study known as ANASE. These studies have been considered by those responsible for Government guidance, and the Government have confirmed that existing guidance as set out in the ATWP remains appropriate.

LCA is committed to providing protection to schools (as well as other Public Buildings) that lie within the 57 dB LAeq contour to ensure protection in keeping with current noise guidelines. This trigger level for sound insulation is the most stringent daytime limit adopted by an airport in the UK.

Comment:
The period over which the 57 dB LAeq contour is assessed is not consistent with the hours of operation at LCA that we consider may produce a significant underestimate of the true impact of noise from aircraft using LCA. This noise monitoring methodology only measures average noise levels and ignores excessive peak-noise levels from aircraft.

‘There is no consensus on a model for total annoyance due to a combination of environmental noise sources.’

LCA Response:
The period over which the 57 dB LAeq contour is assessed is 07.00 to 23.00 hours. This accounts for the vast majority of LCA operations. For the short period from 06.30 to 06.59 (in which only 6 aircraft movements are permitted), separate noise contours have been prepared and are presented in the NAP (These are the Lnight contours). This is a requirement of the NAP process. Furthermore, LCA closes at 2230, which is 30 minutes before the end of this period. LAeq is the UK Government recognised unit of assessment for determining the impact of aircraft noise on the community. It takes into account both the magnitude of a noise event as well as the number of events, and has been found from community studies to relate to annoyance from aircraft noise.

At present, there is no recognised UK model for assessing total annoyance due to a combination of environmental noise sources: as confirmed in the recently published Noise Policy Statement for England*. Instead, it is necessary to assess aircraft noise, road traffic noise and rail traffic noise each separately.

* Noise Policy Statement for England, Defra, March 2010
2.0 Noise Management

Noise Control at LCY:

“There is no acknowledgement of the new flight path which was introduced earlier this year and has brought a succession of planes to vast swathes of East London for the first time.”

“London airspace is currently one of the most indirect airspace areas in Europe.”

“Alternatives should be thoroughly explored to minimise the impact. Such as if the wind is from the west, can aircraft take off and bank south?”

LCA Response:

All air routes within the UK’s airspace are the responsibility of the CAA as appointed by the UK Government. LCA does not have the remit to dictate the routing or altitude of aircraft when outside the immediate vicinity of the Airport.

With regard to the Standard Instrument Departure Route (SID) redesign, NATS was appointed by the CAA to redesign existing routes within what is known as Terminal Control North. This redesign has resulted in the implementation of new departure routes for aircraft north of London City Airport, brought forward as a necessary safety change. LCA was not directly involved with the redesign process.

The CAA assessed, consulted and reported on the environmental effects of these route changes prior to their implementation, and LCA understands that following 12 months of operations the CAA will undertake a review of the change.

Environmental Complaints:

‘The airport’s complaint handling should be replaced by an independent body.’

‘NATS and the CAA must also have complaints logged that are not included here.’

‘The NAP data only shows up to 2008, although LCA must have more up to date info for 2009 ... so these figures are not giving a true reflection of the issues.’

LCA Response:

LCA has a clear and transparent complaint procedure which is followed for all environmental complaints and enquiries received by the Airport. This procedure has recently been reviewed and updated through the new planning agreement between LCA and the LBN.

Residents are also given the alternative of taking any complaints to the LCACC or the LBN should they not feel their concerns have been adequately responded to by the Airport.

LCA is not privy to complaints made to NATS and the CAA for reasons of confidentiality. However, any complaints received by LCA that require comment by NATS or the CAA, are logged with LCA before referring the complainant to the appropriate contact.

Complaint data has been updated to include 2009. Full details of all recent complaints are available on the LCACC website forming part of the quarterly LCA environmental report.

Current Noise Control Measures

Noise Categorisation

Comment:

‘The way in which noise levels are measured (which appears to average out noise levels with periods of silence between) do not recognise in any way the unhealthy peak noise levels that local residents suffer.’

LCA Response:

The noise categorisation system in place at the Airport ensures that aircraft operating at LCA are limited in their maximum noise output. The NTK system measures a number of acoustical parameters including the maximum individual noise levels.

Averaging methods are used for noise contouring purposes where it is necessary to assess the impact of numerous separate noise events over a period of time. Averaging methods of this type are recommended by the Government as the appropriate way to produce noise contour maps for all major UK airports and for correlating aircraft noise to community annoyance.

Airport Operating Hours

Comment:

- No flights after 21.00
- Flights should be restricted to 07.00 and 19.00
- Flights not started before 07.30 at weekends
- Stop flights after 19.30 at weekends
- Stop Saturday and Sunday flights

‘It is imperative that the airport does not seek to increase the current operating hours which would increase noise nuisance.’

LCA Response:

LCA already operates with a 24 hour closure period at the weekend, (Saturday 12.30 until Sunday 12.30), and has tight restrictions on the number of operations before 07.00 hours.

LCA seeks to reassure residents that there are no plans to increase to the Airport’s hours of operation or the number of permitted movements per year.

Movement Limits & Noise Factors

Comment:

- Reduce the number of flights
- Limit the numbers and types of aircraft
- Get rid of / reduce the number of jet planes
- Replace of noisier aircraft with quieter aircraft as a priority
- Accelerate the replacement of old noisy aircraft for modern quieter ones
- Offer stronger incentives to aircraft operators to use quieter aircraft

LCA Response:

When airlines replace their aircraft they will choose to operate newer, more fuel efficient planes.

The Airport works with aircraft operators and manufacturers to encourage fleet replacement of aircraft because it believes it is in the interest of the community and its business to operate with the most up-to-date, safe, reliable and environmentally efficient aircraft.

All aircraft are required to demonstrate compliance with strict noise limits, through noise trials for new aircraft, to the LBN.
Delegation & Arrival Procedures

Comment:
- Review of flight paths
- Landing from and taking off to the east where possible
- Adjust routes where possible to generate the least noise
- A much wider variation in flight paths
- Much narrower flight paths

As we are told that the planes using City Airport are the quietest available there seems little more that can be done other than allow less than a 5.5° climb on take-off so that the plane can use less throttle and thereby reducing some noise.

‘It would be nice to think that aircraft could gain more altitude before turning off their original take-off path.’

LCA Response:

The routes flown to and from any major UK airport are established by the Civil Aviation Authority as appointed by the UK Government.

Departure procedures are established for each aircraft type to account for the aircraft payload and weather conditions to ensure a safe take-off. The LCA noise mitigation measures encourage aircraft to gain altitude quickly after take-off. Steep climb gradients have been a condition of operation at LCA since opening, which in addition to increased safety, produce a smaller noise footprint as aircraft move away from the ground more quickly meaning fewer people are affected by noise in their homes. Air Traffic Control do however set a minimum altitude to which aircraft must climb before turning off their original path.

In the final stages of approach, aircraft descend on a glide slope of 5.5°.

Sound Insulation Scheme

Comment:
- ‘Lower the 57 dB(A) threshold for eligibility for the noise insulation scheme to reflect European Commission research and WHO guidance that sound levels 50-55 dB(A) causes annoyance outdoors and 30 dB(A) causes sleep disturbance indoors.’

LCA Response:

The eligibility threshold for the sound insulation scheme of 57 dB L_{Aeq,16h} is the most stringent operated by any airport in the UK for daytime noise. This is also currently recognised by the Government as being the threshold for the onset of significant community annoyance.

Noise and Track Keeping (NTK)

Comment:
- ‘There is no mention of the fact that City Airport’s noise measurements were, for many years, not accurate.’
- ‘Four noise monitoring points are not sufficient. There should be 6 noise monitoring points around the runway, plus another four further afield in Tower Hamlets and Thamesmead.’

LCA Response:

The Airport has recently acquired two new mobile noise monitors and will also be increasing the number of fixed ground monitors from four to six.

Noise Management Scheme

Comment:
- ‘There is a noticeable lack of measures to reduce existing excessive noise levels from the aircraft movements to and from the airport and airport itself.’
- ‘The plan refers to a Noise Management Scheme which describes a management tool to discourage noisy departures. We would wish to see and comment on this scheme as it is developed.’

LCA Response:

The existing Noise Management Scheme is available for public access on the LCACC website and details the procedures by which LCA works to control and reduce noise levels. A new scheme required under the airport’s new planning agreement with the LBN and airlines is in the process of development and will also be available to the public in due course.

Further Noise Management Measures

Improved NOMMS

Comment:
- ‘We welcome the proposed and improved Noise Monitoring and Mitigation Strategy.’
- ‘To ensure a balanced approach and a workable and truly robust scheme capable of delivering real environmental improvement, airline operators should also be included in the development of NOMMS.’
- ‘It appears that LCA is just following the Section 106 agreement and not implementing anything new.’

LCA Response:

The Noise Monitoring and Mitigation Strategy is being developed in conjunction with airline operators at LCA.

Comment:
- ‘Ground noise is a major issue. There are jet aircraft which have landed or are at the airport terminal and still have engines running. Why can’t they turn the engines off?’

LCA Response:

Reverse thrust is the mechanism which pilots use in order to stop jet aircraft efficiently. It is used at all airports, and is permitted at LCA. In order to reduce the noise impact of reverse thrust the NAP states that it will ‘encourage minimum use of reverse thrust on landing consistent with safety constraints’. This recognises that reverse thrust is a necessary part of a jet aircraft’s operation. The more modern aircraft types commencing operation at LCA, such as the Embrera 170, tend to produce less reverse thrust noise than their older turbofan equivalents. Minimum use of reverse thrust is supported by LCA Airlines.

The Airport has strict rules about the times and durations for which aircraft are allowed to run their engines prior to take-off and following arrival to stand, and only necessary engine running is permitted.

London City Airport Response to the Airports Commission’s Consultation

Comment:
- ‘The draft NAP states that it will “discourage the use of reverse thrust” ... Reverse thrust can only be, and is used more frequently, as a result in the increase of jets and larger jets using such a short runway.’

LCA Response:

‘As we are told that the planes using City Airport are the quietest available there seems little more that can be done other than allow less than a 5.5° climb on take-off so that the plane can use less throttle and thereby reducing some noise.’

‘It would be nice to think that aircraft could gain more altitude before turning off their original take-off path.’
Two-tier Sound Insulation Scheme

**Comment:**
‘Regarding noise mitigation, I welcome the 10 year inspection for homes that have already been noise insulated, but think as an additional measure this 10 year inspection, and installation of noise insulation, should simply apply to all dwellings irrespective of age, that fall within a yearly updated noise contour, ensuring more fairness in relation to annual airport expansion. I think all new-build developments should be offered to be assessed 10 years after they were built.’

**LCA Response:**
The inspections relate only to properties where works were carried out under the LCA sound insulation scheme as these are the works for which LCA has some responsibility.

**Comment:**
‘We recognise that the scheme offered by LCA goes beyond that required in the ATWP and offered by other UK airports ... ’

**Comment:**
‘The NAP does not present any realistic noise mitigation procedures at all regarding aircraft noise in an outside area.’

**LCA Response:**
Information regarding the sound insulation scheme and eligible properties is available on the LCACC website. The Airport produces an Annual Performance Report each July which sets out in detail the properties that are considered eligible under the new sound insulation scheme for that year.

**Noise Insulation Payment Scheme**

**Comment:**
‘There is no assessment or regard in the plan towards the severely compromised opportunity for new residential and commercial developments in the large areas of disused land in Newham’s former Docks, surrounding the airport. The provision of funds from LCA to contribute towards noise mitigation in potential new buildings can only be regarded as a very last minute gesture by comparison with the large initial disincentive that an increasingly noisy airport presents to potential developers.’

**LCA Response:**
LCA has a value compensation scheme to compensate landowners in close proximity to the Airport should aircraft operations negatively affect the value of their site for development, and provided for in the Section 106 Agreement.

**Aircraft Noise Categorisation Review**

**Comment:**
‘I support the objections outlined by Greenwich Council that the plan seeks only to ‘provide further encouragement’ to aircraft operators to replace noisier aircraft (turbo-props) with quieter aircraft (turbo-fans) rather than the prioritisation of their replacement.’

‘There is no mention in the NAP of limiting actual aircraft noise, for example by placing restrictions of types of aircraft, or a daily limit to the number of Category A jet that can be allowed.’

**LCA Response:**
LCA restricts the types of aircraft allowed to operate into and out of the Airport by setting a limit on the maximum departure noise level that any aircraft can produce when assessed as an average over the year (ie. Category A upper limit is 94.5 PNdB). There are also daily and annual limits on the number of permitted aircraft movements as well as weekly and annual limits on the number of permitted Noise Factored movements. This has the effect of limiting the number of Category A aircraft using the Airport on a daily basis, and encourages the use of quieter aircraft types.
3.0 Assessment of Noise Management Measures

Comment:
‘It is not clear how this section supports the statements made in the conclusion – we would like to see greater clarity in how the noise impact is assessed against relevant standards.’

LCA Response:
Section 3.0 outlines European and UK Governmental legislation in the form of the Air Transport White Paper (ATWP), Local Authority planning requirements and the Environmental Noise Directive (END), this detailed information is now contained in Appendix B. The Airport’s 2006 noise impact as well as predicted impacts as a result of the 2009 planning consent have been compared against this legislation, and demonstrated that all legislative requirements are either met, or exceeded. Through approval of the interim planning application in 2009, the LBN decided that the environmental impact of existing operations at LCA was acceptable and the Airport would refer the public to the Environmental Statement documents submitted in support of that planning application.

Comment:
‘It is not clear how community aircraft noise will be reduced, both within the 57 dB L_Aeq,16h noise contour, and outside the contour.’

LCA Response:
The purpose of the NAP is to ‘aim to limit, and where possible, reduce the number of people significantly affected by aircraft noise’. The Airport takes a number of steps to limit and reduce noise exposure to both residents within and outside our noise contours, all of which are outlined in Section 2.0 of the NAP. These measures include improvements to sound insulation for the worst affected residents, quiet departure procedures, strict limits on numbers and times of operation, and continual noise and track keeping to assess performance and constant efforts to help airlines reduce their departure noise where possible.

Comment:
‘The NAP is entitled “2009-2014” but makes no reference to a quantified assessment of the impact of the change in flight paths, increase in number of jets, and the increase in aircraft movements on Bow and surrounding areas.’

LCA Response:
Detailed studies were conducted into the predicted increase in movement numbers and anticipated future mix of aircraft types as part of LCA’s Environmental Statement submitted in support of the planning application, (see Section 3.2). While the NAP is not the suitable location to present this information, the Environmental Statement is freely available to the public via the internet To view the Environmental Statement, visit www.newham.gov.uk/planning and click on the link on the right hand side “View planning and building control applications online”. Then “please click here for planning searches” and enter application number 07/01510/VAR. With regard the impact of flight path changes, this is an airspace matter with which the Airport was not directly involved, and any assessments relating to past or future changes will be undertaken by NATS and the CAA.

Comment:
‘The need for action to address problem areas is side-stepped by reference to statutory relocation requirements, ignoring the fact noise has obvious effects below levels at which a person should be re-housed. No new action is proposed to address noise over and above what is required under local planning agreements.’

LCA Response:
Defra advises that, as a first priority, consideration should be given to further measures that should be taken in areas with residential premises exposed to more than 69 dB L_Aeq,16h.

LCA identifies within the NAP the various measures that will be implemented at lower noise thresholds than 69 dB L_Aeq,16h. Such as for example the provision of an enhanced sound insulation scheme for properties within the 66 dB L_Aeq,16h contours and the continuation of the existing 57 dB L_Aeq,10d scheme. The proposed noise control measures developed by LCA in conjunction with the local planning authority in the Section 106 Agreement, have been developed to ensure that noise arising from the operation of up to 120,000 aircraft movements is managed and mitigated in an acceptable way.

Many responses seek consideration of areas affected by noise levels outside the 57 dB L_Aeq,16h noise contour. A specific requirement however of the Environmental Noise Regulations is that the NAP must be drawn up for places near the Airport as shown by the Strategic Noise Maps.

5.0 Long Term Strategy

Comment:
‘The LCA Master Plan aims to increase flight movements, passenger numbers and infrastructure. The NAP fails to comment on the inevitable increases in noise.’

LCA Response:
This is not the purpose of the NAP. This information is provided in the Environmental Statement associated with the recent planning permission for an increase in annual aircraft movements to 120,000 and can be found on Newham Council’s Website.

Comment:
‘Newham Council considers the 2009 consent ‘finely balanced’, and any Master Plan planning application seeking an increase to 171,000 movements would be considered in that context.’

‘Tower Hamlets Council passed a motion at the Full Council meeting 9 Dec 2009 opposing any further expansion of LCA. The Council considers the impact of increasing flights to and from LCA would be unacceptable in terms of noise levels.’

LCA Response:
In 2006, following consultation, LCA published its Master Plan, a document required by the Government to provide an understanding of how airports, particularly those in the south east of England, will cope with future demand for air travel.

LCA’s current Noise Action Plan is focussed on the period 2010 – 2015, during which no expansion beyond that granted planning approval in 2009 has been granted. In the event of any expansion which would materially affect the noise environment, the
4.0 Evaluation and Implementation

Comment:
A number of respondents raised the issue of compliance with the commitments made by the airport, especially those relating to the new Section 106 Agreement with the LBN.

LCA Response:
The Section 106 Agreement is a legally binding document between the LBN and LCA. The LBN takes an active role in ensuring any environmental effects of the Airport are adequately mitigated, including the provision of a dedicated compliance monitoring officer, funded by LCA, to ensure all obligations are met. The schedule at the rear of this document sets out the timetable for the provision of information to the London Borough of Newham and the dates for the implementation of proposed noise control measures.

In the event that the Airport fails to do this, or fails to fulfill other obligations of the Section 106 Agreement, it will be required to limit annual aircraft movements to that based on the previous 12 months of operations until any breach is rectified. This process would prevent the Airport from utilising their movement limit without delivering the mitigation and management measures required by LBN.

Comment:
‘It is welcome that there is to be a commitment in Section 8 of the Noise Action Plan to publish an Annual Performance Report detailing the performance of noise control measures.’

LCA Response:
Information regarding the Airport and all operations is already publicly available on the Consultative Committee website, and also available for comment at quarterly meetings, however LCA recognises that the Annual Performance Report will bring all of the relevant information together in an easily accessible document.

Comment:
‘For reasons of clarity and comparison we question whether the current and future L\text{eq},16h \text{figures submitted to LBN should now be changed to the annual average in line with END and other airports rather than the average summer day noise contours reported to LCY to LBN to date?’

LCA Response:
The annual average contours used in the Strategic Noise Maps have been prepared in compliance with European legislation. The average summer day contours which are presented in the Annual Performance Report are in line with UK Government guidance and relate directly to research studies undertaken to rate aircraft noise against community response.

These contours will remain appropriate until any alternative guidance is received from the UK Government.

6.0 Conclusions

Comment:
‘The LBN will be encouraged to see the (final agreed) Action Plan propose further steps beyond what the airport have been required through planning control.’

LCA Response:
‘LCA is stating that it does not plan to ... reduce noise and has no commitment to do so ... This is the direct opposite of what is required by the END.’

‘It is just not credible, given the complaints about the current noise climate, that the Noise Action Plan is content to argue that the situation will be ‘acceptable’ with the proposed 50% increase in flight numbers.’

LCA Response:
Aircraft operations at LCA are subject to noise controls that are the most stringent of any airport in the UK. No breach of any European standards on noise limits is occurring or is likely to occur in the future.

The comments on the NAP received from this consultation process have been carefully considered and taken on board. Amendments have been made such as greater clarity on the anticipated timeline for the introduction of improved noise control measures. Subject to the implementation of these noise control measures, the local planning authority has found the increase in flight numbers and the methods planned to mitigate them to be acceptable on noise grounds.
### APPENDIX G

#### Requirements of END

**Noise Action Plan – Requirements of END**

Table G below sets out the contents of LCA’s NAP, and how it meets the minimum requirements as given in Annex V of the END:

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<th>Requirement of END</th>
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<td>An introduction to the NAP and an outline of its purpose and scope. A description of the airport and its operations.</td>
<td>The authority responsible; description of Airport and any other noise sources taken into account; legal context; local context</td>
<td>6</td>
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<td>Any limit values in place; any noise reduction measures in force and any projects in preparation; actions intended in the next 5 years</td>
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<td>A summary of the results of noise mapping; an evaluation of the estimated number of people exposed to noise</td>
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<td>A record of any public consultations organised in accordance with Article 8(7)</td>
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<tr>
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<td>Publication of comments on the draft NAP and the Airport’s responses.</td>
<td>A record of any public consultations organised in accordance with Article 8(7).</td>
<td>50</td>
</tr>
<tr>
<td>Appendix G – Table of LCA Compliance with END</td>
<td>A summary table of the NAP contents against which the requirements of the END are presented</td>
<td>Requirement for the NAP to meet the minimum requirements of Annex V of the END</td>
<td>62</td>
</tr>
</tbody>
</table>

Table G.1– NAP Content and Minimum END Requirements