

City Airport Development Programme (CADP1)

Condition 31: NOISE MANAGEMENT AND MITIGATION STRATEGY (NOMMS)



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1.0 INTRODUCTION

1.1 General

1.1.1 The City Airport Development Programme (CADP1) planning application (13/01228/FUL) was granted planning permission by the Secretaries of State for Communities and Local Government and Transport in July 2016 following an appeal and public inquiry which was held in March/April 2016.

1.1.2 The definitions within the CADP1 planning consent define the Noise Management and Mitigation Strategy (NOMMS) as the strategy that monitors and manages the noise impact of London City Airport (LCA) operations, to be approved under Condition 31 and to replace the Noise Management Scheme dated December 2009 that was previously in place at the airport.

1.1.3 Condition 31 states that:

Prior to the Commencement of Development a Noise Management and Mitigation Strategy (NOMMS) shall be submitted to the Local Planning Authority for approval in writing.

The NOMMS shall be implemented as approved and thereafter the Airport shall only operate in accordance with the approved NOMMS.

Following implementation of the approved NOMMS, a report shall be submitted to the Local Planning Authority annually on 1 June (or the first working day thereafter) as part of the Annual Performance Report on the performance and compliance with the approved NOMMS during the previous 12 month period.

The approved NOMMS shall be reviewed not later than the 5th year after approval and every 5th year thereafter. The reviews shall be submitted to the Local Planning Authority within 3 months of such review dates for approval, and implemented as so approved.

The NOMMS shall include, but not be limited to:

- *Combined Noise and Track Monitoring System*
- *Quiet Operating Procedures*
- *Penalties and Incentives*
- *Control of Ground Noise*
- *Airport Consultative Committee*
- *Annual Noise Contours*
- *Integrity of NOMMS*

- *Auxiliary Power Units*
- *Reverse Thrust and*
- *Sound Insulation Scheme*

- 1.1.4 The CADP1 NOMMS was previously approved by the London Borough of Newham (LBN) in May 2017 (ref. 17/01002/AOD). In March 2019 LCA submitted a revised NOMMS to reflect the following and this was approved by LBN in April 2019 (ref. 19/00835/AOD):
- A change to the penalty limits within the Incentives and Penalties Scheme (IPS) (Appendix C) to reflect the outcome of the 12-month review process with LBN; and
 - A change to the wording of the Sound Insulation Scheme (SIS) (Appendix J) to reflect some minor amendments agreed in principle with officers. The revised wording clarifies the temporary measures that are available in exceptional circumstances where SIS works have been accepted but not yet delivered.
- 1.1.5 The approved 2019 NOMMS was reviewed in 2022 in accordance with the Condition 31 requirements. The review proposed a number of changes which were agreed with LBN and these are reflected in this revised strategy. On approval by LBN this NOMMS will supersede the 2019 NOMMS and will thereafter be implemented in accordance with the approved details unless otherwise agreed in writing with LBN.
- 1.1.6 The aims, purpose and delivery of the NOMMS is set out in Section 2 and Appendix 1. Appendix 1 provides the detailed Implementation Guidelines, which are aligned to the requirements of condition 31, and makes reference to other conditions and strategies approved under those conditions where relevant.

2.0 CADP1 NOMMS

2.1 Aim of CADP1 NOMMS

2.1.1 The aim of the NOMMS is to set out a framework to provide a robust system of noise monitoring and mitigation including the measurement and monitoring of a range of different sources of noise generated from airport operations, including:

- Aircraft departure noise;
- Aircraft arrival noise; and
- Ground based aircraft related sources of noise.

2.1.2 The NOMMS also deals with the recording and monitoring of track keeping information of aircraft using the airport.

2.1.3 The planning conditions relevant to noise control and mitigation at the airport form part of the CADP1 permission and are listed in the CADP1 NOMMS Implementation Guidelines at Appendix 2. These CADP1 planning conditions lay down the rules, so far as noise is concerned, within which the Airport must operate and include requirements concerning the types and number of aircraft that can operate at the Airport and the hours of operation of such aircraft at LCA.

2.1.4 The CADP1 NOMMS will continue to be delivered by the Implementation Guidelines attached at Appendix 1. The Guidelines reflect both the terms of the CADP1 planning conditions and the associated Section 106 Agreement where applicable.

2.1.5 The CADP1 Implementation Guidelines includes references to the mitigation measures and CADP1 planning condition requirements of other relevant conditions (listed in Appendix 2). These include:-

- Penalties and Incentives Scheme;
- Ground Engine Running Strategy;
- Ground Running Testing and Maintenance Strategy;
- Ground Running Noise Limit;
- Ground Running Annual Performance Report;
- Auxiliary Power Unit Strategy;

- Enhanced Sound Insulation Scheme; and
- Sound Insulation Reinspection Scheme.

2.2 CADP1 NOMMS Scope

2.2.1 CADP1 condition 31 requires the NOMMS Strategy to include details of how LCA will monitor and manage the noise impact of LCA operations by measures and procedures including, but not limited to:

- Combined Noise and Track Monitoring System;
- Quiet Operating Procedures;
- Penalties and Incentives;
- Control of Ground Noise;
- Airport Consultative Committee;
- Annual Noise Contours;
- Integrity of NOMMS;
- Auxiliary Power Units;
- Reverse Thrust;
- Sound Insulation Scheme.

2.3 Purpose of NOMMS

2.3.1 The purpose of the CADP1 NOMMS is to:

1. Appropriately record relevant noise and track keeping data at the airport on a continuous basis as far as reasonably possible;
2. Use reasonable endeavours to prevent the loss of noise monitoring data collection either through the failure of noise monitoring equipment or due to external influences such as construction locally of new development or other noise-reflective surfaces;
3. Ensure on-going maintenance of the noise and track-keeping system;
4. Adequately maintain the integrity of such data for the purposes of categorisation and management;
5. Analyse and report such data to LBN and other parties as agreed between LBN and LCA from time to time;

6. Present relevant data in regular meetings and undertake consultation with the Airport Consultative Committee and such other statutory body or bodies as may be reasonably nominated by LBN;
7. Record track-keeping information and identify any deviations from standard routes that should be followed by aircraft;
8. Undertake annual Aircraft Categorisation Reviews;
9. Provide data for noise contour validation purposes;
10. Introduce mitigation measures and incentives to encourage the quiet operation of aircraft by airline operators;
11. Manage, mitigate and monitor aircraft related noise sources on the ground;
12. Administer and implement the airport's sound insulation scheme; and
13. Ensure that new planning and construction of new Developments in the vicinity of the airport are in conformance with the necessary planning guidelines regarding the quality of sound insulation utilised in their construction.

2.4 CADP1 NOMMS Implementation Guidelines

2.4.1 The CADP1 NOMMS will be delivered by the Implementation Guidelines that is included at Appendix 1.

2.4.2 The Implementation Guidelines are split into a series of sub appendices as follows:

- Appendix A: Combined Noise and Track Monitoring System
- Appendix B: Quiet Operating Procedures
- Appendix C: Incentives and Penalties Scheme
- Appendix D: Control of Ground Noise
- Appendix E: Airport Consultative Committee
- Appendix F: Annual Noise Contours
- Appendix G: Integrity of NOMMS
- Appendix H: Auxiliary Power Units
- Appendix I: Reverse Thrust
- Appendix J: Sound Insulation Scheme

**APPENDIX 1: CADP1 NOMMS
IMPLEMENTATION GUIDELINES
AUGUST 2022**

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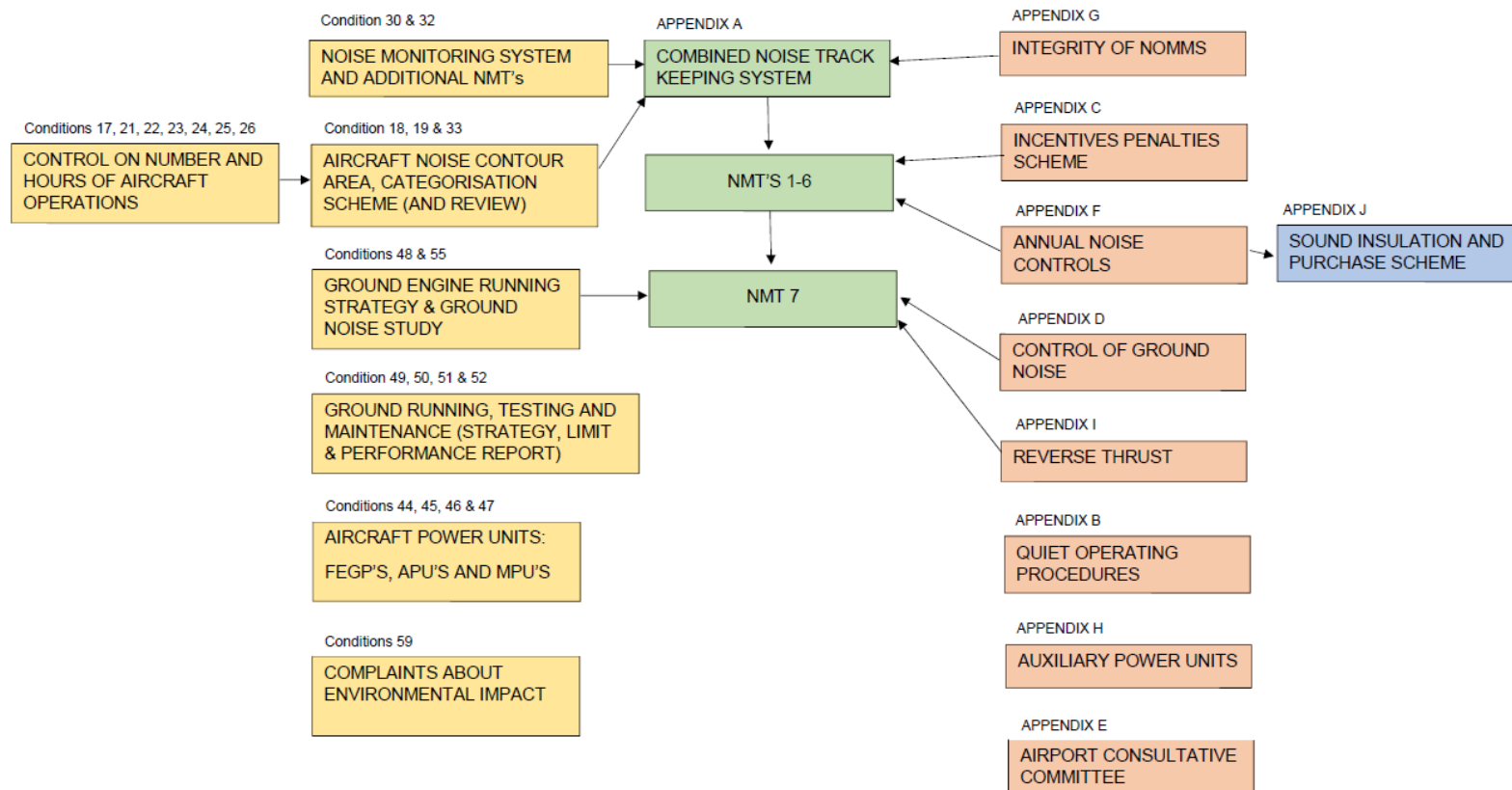
Preface

These implementation guidelines comprise a schematic layout of the NOMMS Implementation Guidelines and their relation to the planning conditions, and a series of appendices. The appendices A to J together constitute the NOMMS Implementation Guidelines. They fulfil the requirements of the CADP1 planning controls¹ which are referenced.

¹ **CADP1 planning controls** are the planning permission dated 26 July 2016 (ref APP/G5750/W/15/3035673) and the associated Section 106 Agreement dated 27 April 2016.

NOISE MANAGEMENT AND MITIGATION STRATEGY (NOMMS – CONDITION 31)

SCHEMATIC LAYOUT OF NOMMS IMPLEMENTATION GUIDELINES AND ASSOCIATED PLANNING CONDITIONS



APPENDIX A COMBINED NOISE AND TRACK MONITORING SYSTEM

A.1 General

A continuous noise monitoring system was first installed and became operational at the Airport in 1992. A system of this type has been in place ever since that time and was upgraded in 1999 when a flight track monitoring system was also installed. Historically, this noise and flight track monitoring system (NFTM) comprised four fixed noise monitors. These four monitors known as NMTs 1 to 4 are all located close to the Airport and offset from the runway centreline, to reflect the noise regime that existed local to the Airport. To adequately monitor areas to the east and west of the Airport, some account of aircraft take off noise and approach noise was also required. LCA therefore introduced additional noise monitors in order to better monitor and evaluate the effects of take-off and approach noise in these areas to supplement the measurements closer to the airport.

The NFTM was enhanced in 2016 and 2017 with the acquisition of two new fixed noise monitors (NMTs 5 & 6 in compliance with Condition 32) and a mobile noise monitor (NMT 7). This introduced a more extensive system of noise monitoring that includes the measurement and monitoring of ground based sources of aircraft related noise as well as airborne aircraft noise. The key functions of this system are to:-

- identify any deviations from standard routes that are followed by aircraft,
- monitor for noise categorisation purposes following the introduction of the Aircraft Noise Categorisation Scheme, in compliance with Condition 18;
- provide data for noise contour validation purposes to produce noise contours for the Sound Insulation Scheme and to check compliance with Condition 33 regarding the size of the contour area;
- provide data on ground based sources of noise;
- record noise levels produced during aircraft departures and arrivals;
- ensure appropriate access to data by the Council;
- provide data to investigate environmental related complaints.

This appendix sets out the principles of the noise and flight track monitoring system.

A.2 Noise and Flight Track Monitoring System

The system comprises seven noise monitors. A brief description of their positions is given below which are shown in Appendix A1:-

- NMT 1 - NW Position On grassy bank on dockside close to the Ramada Hotel.
- NMT 2 - SW Position On cleared land, north of Charles Street.
- NMT 3 - NE Position On dockside, south of Gallions Road.
- NMT 4 - SE Position On quayside, east side of King George V Dock.
- NMT 5 to the west of the runway, near East India Lock, approximately beneath the take off/approach path.
- NMT 6 to the east of the runway, in Thamesmead, also beneath the take off/approach path.
- NMT 7 (mobile) located near to the London Borough of Newham Offices (Building 1000) to the north of the runway but can be used in various locations as required. This monitor is used primarily for the monitoring of aircraft related ground noise.

The measured noise data is retrieved automatically from the NMTs by a central NFTM server. The system downloads data from the Airport flight information database and radar information database on a daily basis, to enable correlation of noise event data with aircraft flight information, so as to determine the aircraft flight number and type causing the event.

Noise data is collected from the NMTs and processed for the purposes of noise management. The noise and flight track monitoring system aims to ensure aircraft recognition and correlation is achieved for at least 80% of all aircraft arrivals and departures when averaged over a 12 month period.

An indication of the type of information collected by the noise monitoring system is contained in Appendix A2.

A.2.1 Flight Track Monitoring

The flight track monitoring component of the system is permanently linked to the Airport's radar feed, which is provided by the local Air Traffic Control centre. Aircraft flight tracks are correlated with flight information and noise events. Based around this information, the Airport introduced a web-based system (known as TRAVIS²) to share data from the flight track monitoring system with the public.

² <https://travislcy.topsonic.aero/>

Flight tracks are capable of real-time inspection and are stored for later processing and analysis. This allows deviations from the departure and arrival flight paths at the Airport both in plan and elevation to be determined. The facility to identify deviations from the standard departure and arrival routes operated at LCY is provided.

An indication of the type of information that may be collected by the flight track monitoring system is contained in Appendix A2.

A.3 Maintenance

The noise and flight track monitoring system is maintained by the equipment suppliers based on a contract that ensures speedy resolution of any hardware or software malfunctions. The following response times will apply:

Hardware response times:

- Maximum two working days to ensure the Noise and Flight Track Monitoring System is logging data at all 7 NMTs;
- Maximum five working days to have all faulty hardware repaired/replaced and operational;
- Software response times;
 - Maximum one working day to ensure a system is in place to log data in the database and to provide the user(s) with access to the noise server for noise analysis and reporting;
 - Maximum of five working days to fix software errors (especially mean track calculations, gate dispersion, gate penetration module and complaint handling);
 - Maximum 10 working days to fix smaller software errors which do not affect the operation of the software module.

In addition to the above maintenance contract, the system has been developed with the flexibility to allow the management of its operation to take place either locally or remotely via an external management service. External consultants have been engaged to ensure that the system is adequately maintained and to ensure the robustness of the data acquired.

A.4 Local Authority Data Access

Access to a web-based service is available on request to the London Borough of Newham which provides details of noise and flight track monitoring data for independent appraisal.

On request from the Council, LCA will provide training free of charge to the Council for up to five members at least once a year in the use of the Council's Terminal and interpretation of data.

A.5 Re-location of Noise Monitoring Terminal

In the event that it becomes necessary to re-locate one of the fixed noise monitoring terminals for any reason, LCA will provide advance written notice to the Council and seek written approval for the siting of any monitor in a suitable location, taking account of the requirements of the Section 106 Agreement where applicable.

A.6 Complaint Handling

The noise and flight track keeping system provides information to assist in the investigation and recording of complaints relating to aircraft noise and aircraft flight routes. A summary record will be maintained of all complaints about the environmental impact of the operation of the airport and any action taken to address such complaints.

Reporting of complaints is detailed at paragraph A.7.

A.7 Reporting

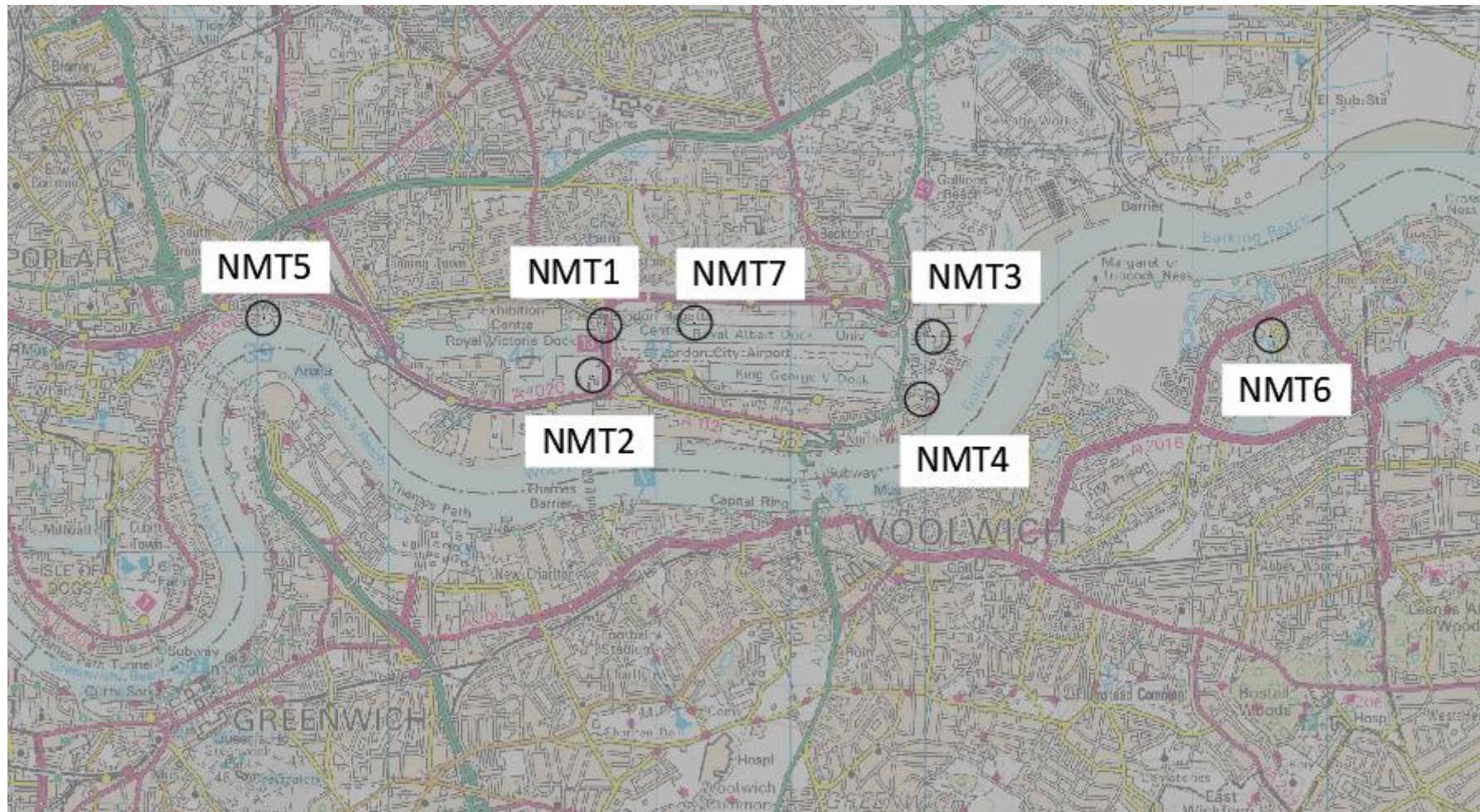
A detailed report will be submitted of all complaints and any action taken:

- to LBN within 15 days of that complaint being made or that action being undertaken;
- to the Airport Consultative Committee at the meeting of that Committee next following that complaint or that action; and
- as part of the Annual Performance Report in relation to such complaints and actions in the preceding calendar year.

Complaint records will be available for inspection by LBN at all reasonable times.

In June each year, the Airport publish an Annual Performance Report (APR) which includes data from the noise monitoring system for the previous calendar year. Much of this information is also reported quarterly. In particular, the following information will be included in these reports from the Noise and Track Monitoring System:-

- i) Track plots showing the actual tracks flown by departing aircraft.
 - ii) Average departure and arrival noise levels by aircraft type and airline.
-



APPENDIX A2

Information collected by the Noise and Track Monitoring System

Noise Data Collection

The basic noise monitoring software shall:

Call up and receive data from the NMTs and identify the monitor transmitting the data. This data shall include:

- $L_{Amax,S}$, SEL and duration of each event,
- PNL and EPNL values of each event (when necessary),
- statistical hourly data (L_{Aeq} and L_{A90}) on the ambient noise levels at the monitor,
- 0.5 second, one-third-octave noise event data (when requested),
- calibration records,
- weather data (at no less than one monitor).

In addition the software shall call up and receive:

- radar data (flight identification and aircraft positional information)
- flight information from the Airport flight information system (scheduled and actual time of the movement, whether the movement was an arrival or a departure, the runway in use, the airline and flight reference number, the type of aircraft and flight route in use).

The following information will also be recorded:-

- The NMT reference defining its location (e.g. NMT1)
- Date and time of measurement of $L_{Amax,S}$.
- Flight number (airline and flight reference)
- Flight operation (e.g. Scheduled or chartered etc.)
- Aircraft type (e.g. BAe146 or RJ85)
- Event description (e.g. arrival (ARR), departure (DEP))
- Runway in use during event (e.g. 27 or 09)
- Flight route used
- Noise level at monitor in terms of $L_{Amax,S}$ and SEL (e.g. 75 dB L_{Amax} and 85 dB(A) SEL)
- PNL and EPNL where necessary
- Background ambient noise data (L_{A90} and L_{Aeq} with and without aircraft events)
- Event duration (e.g. 18 s.)

Ground Noise Data Collection

At NMT 7 ground noise will be monitored, and it is possible to filter out other noise sources at this position to provide an estimate of ground noise level. This NMT 7 shall be used to record (1) the total ambient noise level during the day, and (2) the total aircraft events noise level. From these two sets of information, the system shall calculate the residual noise level.

The noise monitoring system at LCA provides the capability to set triggers, based on both absolute noise thresholds and time durations over which a specified threshold is exceeded. This provides the facility for identifying peak noise events produced by, for example, an aircraft on departure, on arrival and also when undertaking reverse thrust on landing. This facility, when used in conjunction with data from the noise track keeping system, enables the correlation of noise events with aircraft events at the airport. As the noise monitor at NMT 7 will record the prevailing noise environment on a continuous basis, it is possible to determine the underlying residual noise level at this monitor, excluding peak noise events produced by aircraft on departure and during arrivals by subtracting the noise produced by such events from the total noise recorded. This same principle can be used to determine the noise contribution made by aircraft undertaking reverse thrust over a specified period.

Flight Track Data Collection

Flight track data shall be obtained from the radar link at the Airport including at least the following:

- transponder code for aircraft type obtained from transponder
- dimensional data based on the x, y and z co-ordinate system
- temporal data identifying actual time of each track position

The system shall be able to:

- obtain a record of the lateral and vertical position of aircraft relative to the Airport and record the ground track and vertical profile of the event using QNH corrected data as appropriate (QNH data interface to be organised by the Vendor in the same way as the Airport radar system).
- display and print individual aircraft ground tracks, in real-time and also retrospectively, superimposed onto an Ordnance Survey (OS) style (e.g. 1:50,000) base map.
- display and print "spaghetti" diagrams showing the ground tracks of a group of aircraft selected by user definable variables by means of a suitable data filter.
- display and print "scatter" diagrams at set gate positions

The system shall:

- enable gates and corridor envelopes to be set up to assess vertical and lateral track violations by departing or arriving aircraft.

- have the capability to provide input data to the FAA Aviation Environmental Design Tool (AEDT).

APPENDIX B QUIET OPERATING PROCEDURES

The Airport requires that every operator of aircraft adopt procedures which will produce the least noise disturbance compatible with safe operation, and where applicable, such procedures should follow any promulgated noise abatement routing for the Airport. Where aircraft manufacturers have established special procedures for the purposes of reducing noise, these should be applied to operations at London City Airport, subject always to the safe operation of aircraft.

Quiet operating procedures at London City Airport include the following:-

- Minimum use of reverse thrust (see Appendix I)
- Use of fixed electrical ground power or battery powered mobile ground units where possible (see Appendix H)
- Minimum use of auxiliary power units (see Appendix H)
- Operation of a steep glide slope (5.5 degrees)
- An EFPS³ system (see Appendix D1).

Several of these procedures are covered by separate approved strategies that are reviewed independently to the NOMMS and condition 31 and at different times. Where this is the case the NOMMS refers to any such relevant strategies and conditions and does not reiterate the details to avoid duplication.

³ Electronic Flight Progress Strips (EFPS) which has replaced the system of writing on paper Flight Plan Strips (FPL's) for Air Traffic Control personnel.

APPENDIX C INCENTIVES AND PENALTIES SCHEME

C.1 Introduction

This section describes an incentives and penalties scheme that focusses primarily on incentives for airlines to operate their fleets in a quieter manner.

LCA fund an annual Community Projects Fund which is used to deliver specific projects in the local community. The Community Projects Fund is delivered in partnership with the most improved airline under the Incentives and Penalties Scheme.

For those operators whose aircraft produce noise levels that exceed the Fixed penalty limits set out in Appendix C1 when departing at the Airport and for which no reasonable explanation is given, a financial penalty is levied. Additionally, flight track keeping is monitored.

In summary the scheme includes:-

- i) An incentives scheme to encourage airlines to operate aircraft more quietly, rewarding those airlines with credits towards co-partnering LCA delivering a Community Projects Fund each year.
- ii) A fixed penalty for infringement of an upper noise limit as measured at the airport's permanent noise monitors 5 and 6 to penalise those operators producing departure noise well above the expected range for an aircraft type.

C.2 Overview of Incentives and Penalties Scheme

C.2.1 Community Trust Fund

LCA fund an annual Community Projects Fund which is used to deliver specific projects in the local community.

The Community Projects Fund is delivered in partnership with the most improved airline under the Incentives and Penalties Scheme. It is administered by a Board of Trustees (BoT) comprising representatives from LCA, the most improved airline from the previous year, community representatives and the Chair of the London City Airport Consultative Committee (LCACC).

Community projects and charities from the Local Area⁴ can apply to the BoT to fund a specific project. Each year advertisements are placed in local newspapers and on social media to make the local community aware of the fund and how to apply.

All airlines operating at LCA are ranked by their performance with respect to departure noise levels annually. The most improved airline will partner LCA in delivering the Community Projects Fund the following year. A publicity strategy for these awards will be agreed and implemented with the most improved airlines.

Where aircraft operate well above their expected departure noise level, a financial penalty is raised for that departure and the airline is required to pay additional monies towards the Community Projects Fund. The more penalties an airline accrues, the bigger impact it has on their ranking in the Incentives and Penalties league table overall.

C.2.2 Credits

As summarised above, an airline is encouraged to fly their aircraft quietly by the award of a “credit” point towards the noise league table which determines the most improved airline that will deliver the Community Projects Fund in partnership with LCY. The quieter that aircraft fly, the greater the number of credit points awarded to this fund. Conversely, for any aircraft that departs from the airport above an agreed noise credit threshold, credit points are removed from the airline’s credit point account unless there was good reason for flying in such a manner.

C.2.3 Fixed Penalties

If noise levels from an aircraft departure exceed a fixed upper noise limit, known as a fixed penalty limit, then a fixed financial penalty is levied. This element of the scheme is not intended to penalise a heavily loaded aircraft which, by the very nature of its operational requirements, may cause more noise than a similar aircraft in its class.

In view of the differing capabilities of turbofan and turboprop aircraft, different noise limits apply for these two aircraft categories, see Appendix C1.

⁴ The “Local Area” Boroughs to include the 11 East London Boroughs of Newham, Tower Hamlets, Greenwich, Bexley, Lewisham, Southwark, Barking & Dagenham, Havering, Redbridge, Waltham Forest and Hackney, as well as Epping Forest District Council. These are defined in the 2009 S106

The LCA system seeks to be fair to operators, by ensuring before any financial penalty is sought that there are not any special circumstances that caused the noisy departures. Such circumstances would include the instruction by air traffic control on the basis of safety to alter normal departure operational procedures.

Penalties are reviewed and fall payable at the end of each quarter. All financial penalties collected in a calendar year are added to the Community Projects Fund for the following year. Financial penalties are charged at £600 per dB(A) in excess of the fixed penalty limit or any alternative sum agreed with the airlines and approved by the Council.

In summary, the credits and penalties thresholds operates as follows:

- o if upper noise limit (fixed penalty limit) is exceeded, a financial penalty accrues for the operator
- o If upper credit threshold (credit removal threshold) is exceeded, a credit point is removed for the operator
- o if lower credit threshold (credit award threshold) is not reached, a credit point accrues for the operator.

C.2.4 Use of Fixed Noise Monitors to Determine Credits and Penalties

The LCA fixed noise monitors shown in Figure 1 are used to measure noise levels during an aircraft departure. These measured noise levels are used to determine the Flyover Noise Level (described below) which are then compared against the fixed penalty limit and credit thresholds to determine whether a credit or penalty should be applied to the airline.

Flyover Noise

The Flyover Noise Level is determined as follows:

For aircraft departures on Runway 27, the Flyover Noise Level is determined from the maximum noise level ($L_{Amax,S}$) measured at NMT 5.

For aircraft departures on Runway 09, the Flyover Noise Level is determined from the maximum noise level ($L_{Amax,S}$) measured at NMT 6.

C.2.5 Procedure for Awarding Credits and Penalties

The noise levels of departing aircraft are recorded at NMTs 5 and 6 at either end of the runway, as shown in Figure 1. The results are compared with the noise limits and thresholds as set out in Appendix C1 or as otherwise agreed in writing with the Local Authority.

Where a fixed penalty limit is exceeded the Airport write to the airline operator of the particular departing aircraft, and seek an explanation. If no explanation is given that justifies the individual noisy departure, then a fixed financial penalty is established against the operations of that airline and one credit point removed from the airline's credit account. Examples of matters that could be taken into consideration in reviewing whether an exceedance of a fixed penalty limit is justified are:-

- i) Visibility conditions on the airfield.
- ii) Wind speed and direction on the airfield.
- iii) Past noise performance of this aircraft type.
- iv) Payload of the aircraft.

Each exceedance event is considered on a case by case basis to establish whether or not a fixed penalty is to be applied.

Consideration has been given to the equitability of the scheme at NMT 5, as those aircraft flying closest to the monitor (which is approximately 200m to the north of the extended centreline of the runway) could produce higher noise levels at the monitor due to their proximity rather than the inherent noisiness of the aircraft. The following procedure has therefore been agreed with LBN when assessing penalties at NMT 5:

1. Determine which flights exceeded the fixed penalty limits;
2. For each of these flights, check whether the track was between 100m and 300m north of the track centreline when passing NMT 5;
3. If this was the case, then apply a reduction of 0.2 dB(A) to the measured noise level to determine whether the penalty limit has still been exceeded and, if so, the extent of the fine potentially liable.

Where the credit removal threshold is exceeded the Airport write to the airline operator of the particular departing aircraft, and seek an explanation. If no explanation is given that justifies the individual noisy departure, one credit point is removed from the airline's credit account. If no credits have been accrued by the airline, a negative credit score is registered.

Where the credit award threshold is not reached the Airport will award one credit point to the airline's credit account. An airline's credit account becomes zero at the start of the calendar year.

C.2.6 Reporting Credits and Penalties

Airlines

The occurrence and investigation of a potential fixed penalty (for a noisy departure) shall be recorded to identify the level of exceedance, the monitor(s) at which the exceedance occurred, the potential cause and whether any mitigating circumstances were present at the time. Where no acceptable explanation is provided by the airline, a fine shall be levied in accordance with the procedures set out in this document. A short “fixed penalty” event report will be prepared for record purposes.

Credit points are accrued in accordance with the procedures set out in this document. Should a credit removal threshold be exceeded, an investigation will take place in accordance with the procedures set out in this document. A short “credit removal” event report will be prepared for record purposes.

Should a credit award threshold not be reached, a credit point will be added to an airline’s credit account in accordance with the procedures set out in this document. A short “credit award” event report will be prepared for record purposes.

Airlines, LBN and LCACC

The number of fixed penalties and credit points gained by each airline is reviewed on a quarterly basis and the results reported to airlines operating at LCY, as well as LBN and the LCACC.

C.2.7 Community and Airline Annual Reporting

An annual report shall be produced as part of the Annual Performance Report describing aircraft/airline performance with regard to noise monitoring in terms of good and poor performers and league tables, for the period relating to the immediately preceding calendar year. The most improved airline will be awarded with a partnership delivering the Community Projects Fund with LCA in the following year. The report will be submitted to the airlines, LBN and the LCACC and will also be included in the APR.

C.3 Operation of Incentives and Penalties Noise Scheme

The incentives and penalties scheme is along the lines of those operated at other airports. The key difference is that while other airports normally just impose a financial penalty when an aircraft flies above a specified noise limit, the scheme sees credit points awarded to aircraft that depart from the airport below an agreed noise threshold. In addition, for any aircraft that departs above

an agreed noise threshold, credit points will be removed from the airline's credit point account unless there was good reason for flying in such a manner. Additionally, any aircraft that exceeds the fixed penalty limit would automatically trigger an immediate financial penalty without good reason for flying in such a manner.

The noise limits and thresholds for the incentives and penalties scheme are set out in Appendix C1. Fixed penalty limits, credit removal thresholds and credit award thresholds are presented separately for both turbofan and turboprop aircraft, by runway. The Flyover Noise Level measured during a departure is rated against these thresholds and limits.

In practice, the scheme will operate as follows:-

- i) a community trust fund has been set up and is fully funded by LCY. It is subject to an annual minimum of £75,000. Any financial penalty payments accrued are added to the fund the following year;
- ii) the number of penalties and/or credit points gained by each airline is reviewed and reported on a quarterly basis to airlines LBN and the LCACC;
- iii) financial penalties fall payable on a quarterly basis;
- iv) an annual Community and Airline Report is published by LCA that highlights performance of the scheme and identifies the most improved airline for the previous calendar year;
- v) the Community and Airline Report will identify the details of the community projects that have been sponsored in the previous year in partnership with the winning airline and administered by the BoT. The report will be published as part of the Annual Performance Report.

C.4 Operation of Flight Track Monitoring System

At London City Airport, departing aircraft are required to follow standard instrument departure routes (SIDs) as described in the UK AIP. The Airport operates a flight track monitoring system that can be used to record the degree to which a departing aircraft follows the described SID.

The purpose of the monitoring of flight tracks within the standard route will be to identify those 'off track' departures with the aim of working towards achieving at least 95% of all departures within an agreed route.

If 'off track' departures become a significant noise issue, a log of 'off track' departures shall be maintained by the Airport and the relevant aircraft and airlines shall be identified in a quarterly report, or as otherwise agreed in writing with the Local Authority.

Any persistent offenders shall be requested by the Airport to provide a written explanation for the 'off track' events and, unless a reasonable explanation can be provided, shall be requested to provide corrective action for future departure operations.

A report shall be submitted quarterly to the Local Authority or as otherwise agreed in writing with the Local Authority.

C.5 Review Periods

Noise thresholds are based on the limits and thresholds set out in Appendix C1 in accordance with condition 31. The system shall be reviewed at the same time as the 5 yearly review of the LCA NOMMS scheme. The review shall consider amongst other matters, the efficacy of the noise limits and threshold values, the suitability of the financial penalty, and the effectiveness of the noise threshold system as a component of the LCA NOMMS scheme. Written agreement shall be received from LBN prior to the introduction of any modifications to the system.

APPENDIX C1

FIXED PENALTY NOISE LIMITS AND CREDIT THRESHOLDS

All noise limits are expressed as dB L_{Amax,S}

		Runway 09	Runway 27
		Flyover Noise Level (NMT 6)	Flyover Noise Level (NMT 5)
Fixed Penalty Limit			
Turbofans		84	84 ⁵
Turboprops		78	78
Credit Removal Threshold			
Turbofans		81	82
Turboprops		75	77
Credit Award Threshold			
Turbofans		73	72
Turboprops		66.5	65.5

⁵ If aircraft is between 100m and 300m north of the extended runway centreline, a 0.2 dB reduction is applied

APPENDIX D CONTROL OF GROUND NOISE

D.1 General

The Airport will continue to seek to ensure as far as reasonably practicable that every aircraft operator adopts the operating practice which generates the least amount of noise from aircraft taxiing, manoeuvring or holding on stand, at the runway, and prior to take off, subject to the requirement of ensuring the safe operation of the aircraft at all times.

The ground noise controls are contained in CADP1 Conditions 44 to 55 which are reproduced in Appendix 2 of this document. Together these, with the resulting associated documents, serve to minimise the ground noise impact. Controls are in currently place in respect of:

- Use of ground power (conditions 44, 45 and 46)
- Use of Auxiliary Power Units (condition 47)
- Engine use while taxiing (condition 48)
- Engine use on stands (condition 48)
- Engine running for testing and maintenance purposes (conditions 8, 48, 49, 50)
- Noise barriers (conditions 6, 53 and 54)
- Ground noise monitoring (conditions 32 and 51)

For details of the specific controls, it is recommended to refer to the relevant condition(s) and associated approved document(s), as these may be updated independently of the NOMMS.

APPENDIX E AIRPORT CONSULTATIVE COMMITTEE

The Airports Consultative Committee (LCACC) meets on a Quarterly basis and is made up of members from the local community, Council's and interest groups. The Airport will continue to provide the LCACC with quarterly reports on the following:-

- Airport Director's Report
 - Recording general information on activities or developments at the Airport over the previous three monthly period.
- Environmental Report
 - Reporting on the number of environmental complaints/enquiries received over the period and the actions taken to address them together with data on the operational status of the noise and track monitoring system.
 - Providing quarterly an Air Quality Report that records the results arising from a programme of air quality monitoring in and around the Airport.
- Community Relations Activity Report
 - Reporting on activities taken by the Airport in the local community including details of sponsorship provided to various bodies and work undertaken with schools and higher education establishments.
- The above reports are attached to minutes of the Committee's meetings which are widely circulated and are also published on the Committee's website.

In addition, the Airport provides on a quarterly basis, figures showing the number of flights as well as the numbers and types of aircraft using the Airport.

APPENDIX F ANNUAL NOISE CONTOURS

F.1 Reporting

As part of the Annual Performance Report the Airport produce annual daytime noise contours depicting the air noise produced during an average summer's day.

F.2 Uses of Noise Contours

These contours will be used for the following purposes:-

- To assess the eligibility of both dwellings and public buildings under the sound insulation scheme.
- To assess the eligibility for a purchase offer of those exposed to air noise levels in excess of 69 dB $L_{Aeq,16h}$.
- To assist the local authority in ensuring appropriate planning conditions are imposed on new development within the Airport noise contours.
- To enable members of the local communities and the Consultative Committee to view the current noise exposure levels.
- To check compliance with the contour area limit set out in CADP1 Condition 33.

F.3 Methodology

In 2006, the Environmental Noise (England) Regulations came into force, in response to the European Noise Directive (END). These Regulations resulted from requirements set out in the European Noise Directive which, in the interests of harmonisation, sought noise mapping to be produced by all Member States. The END requires the use of a common aircraft noise contouring methodology which is set out in ECAC CEAC Document 29. Although these requirements relate currently only to strategic noise mapping, all recognised noise contouring methodologies in use in the UK now satisfy the requirements of this document, such as the Federal Aviation Authority's software package, the Aviation Environmental Design Tool (AEDT).

LCA currently use the AEDT software package to produce air noise contours.

The Airport will produce 57, 63, 66 and 69 dB $L_{Aeq,16h}$ average mode⁶ summer daytime noise contours based on the following:-

- Actual aircraft movements for the summer period (16 June to 15 September inclusive) in the calendar year immediately preceding the due date for the submission of the Annual Performance Report.
- Forecast aircraft movements for the summer period (16 June to 15 September inclusive) in the calendar year of the due date for the submission of the Annual Performance Report.
- Forecast aircraft movements for the summer period (16 June to 15 September inclusive) in the calendar year of the due date for the submission of the Annual Performance Report but reduced to take into account likely cancellation of flights and other matters affecting numbers of aircraft movements, having regard to historical data from the preceding five calendar years.

F.4 Validation

The combined noise monitoring and track monitoring system will be used for the purposes of obtaining data for the validation of the noise contours, as required by the Section 106 Agreement (Schedule 8, paragraph 3), which states that:

at three yearly intervals the Airport Companies shall submit a verification report to the Council for its written approval which shall identify the input data, the methodology and the output data used to calculate the Noise Contours and recommend the appropriate calculation procedure for producing the Noise Contours

In order to comply with this, periodically, and not less than every three years, a check is undertaken at the six fixed noise monitors (and any other positions as necessary) that the noise levels of aircraft on departure and arrival are in keeping with those predicted using the software used for the noise contour methodology. Where any significant differences are found, adjustments are made to the noise contour input data in order to reflect the typical departure and arrival noise levels produced by individual aircraft around the Airport.

⁶ The average mode is determined from statistics for annual aircraft movements for the previous five calendar years.

F.5 Noise Contour Strategy

In accordance with CADP1 Condition 33, within 5 years of the commencement of the CADP1 Development, a Noise Contour strategy shall be submitted to LBN for approval in writing which defines the methods to be used by LCA to reduce the area of the Noise Contour by 2030.

The approved Noise Contour strategy shall be reviewed within 5 years of its approval and every 5th year thereafter in order to seek further reductions in the size of the Noise Contour by 2030 and beyond. The reviews are to be submitted to LBN within three months of the review dates and implemented once approved.

APPENDIX G INTEGRITY OF NOMMS

The reliability and accuracy of the noise and track monitoring system is an integral element of the NOMMS. In order to ensure that this is maintained, LCA will need to be consulted by the relevant local planning authorities on any proposed development that might affect the operation of the monitors. The Airport are notified for safeguarding purposes of planning applications in the vicinity. These are reviewed and any proposals that have the potential to impact the monitors would be escalated.

Measures to ensure the continued functioning of monitors could include, but are not limited to:-

- a) steps to ensure sufficient clearance between the noise monitor and any new buildings or structures
- b) a planning condition requiring re-location of the noise monitor to an alternative location on any development site, to be agreed with the Airport
- c) if b) is not possible, then the Airport will review potential alternative sites
- d) Any changes to the location or surroundings of a noise monitor that affect its ability to perform its function in the NOMMS, including any correction factors or adjustments to noise thresholds, will require the written approval of the London Borough of Newham.

APPENDIX H AUXILIARY POWER UNITS

H.1 General

An Auxiliary Power Unit (APU) is a small engine or generator used to power an aircraft's primary systems when its engines are not running.

Use of APUs

The use of APUs is agreed with LBN as part of the APU Strategy approved pursuant to CADP1 condition 47. . The strategy includes provision of details of the position, orientation and use of aircraft before and after landing and taking off including conditioning of the cabin and equipment.

Reporting

As part of the Annual Performance Report, a report is submitted containing details of the use of APUs at the airport in the previous calendar year.

APPENDIX I REVERSE THRUST

Use

The use of reverse thrust on the landing roll should be kept to the minimum required for the necessary deceleration of the aircraft and within the limits of the airline's standard operating procedures.

Any instance of unusual or excessive use of thrust reversers is investigated by way of reference to noise data collected at NMT 7 by the Airport and a report generated by the Airport.

A description of the events for which a report has been generated by the Airport for the period relating to the immediately preceding quarter year shall be submitted to the London Borough of Newham Council within 30 days of the following dates: 1 January, 1 April, 1 July and 1 October.

Review

In 2018, a review was carried out of the NMT 7 data collected for a 12 month period in order to determine a suitable noise threshold above which events will be investigated. This was defined as 88 dB L_{ASmax} for runway 09 arrivals and 90 dB L_{ASmax} for runway 27 arrivals.

Reporting

When the noise threshold levels are exceeded by the noise event from an arriving aircraft, the airport contacts the airline and seeks an explanation in order to minimise future occurrences. Any such exceedance is reported in the quarterly noise report submitted to LBN and the Annual Performance Report.

APPENDIX J SOUND INSULATION AND PURCHASE SCHEME

J.1 SOUND INSULATION

LCA are required to mitigate the impact of environmental noise on residential premises and public buildings as a result of Airport operations. The Sound Insulation Scheme offers the communities living close to the Airport within the Scheme boundaries the opportunity to treat their homes and community buildings against noise.⁷

Prior to the CADP1 permission, the Airport operated a sound insulation scheme comprising a two tier system, known as the First Tier and the Second Tier. As part of the CADP1 permission, a third tier was introduced, known as the Intermediate Tier.

Residential and Public Buildings become eligible under the scheme, subject to when they were built, when first exposed to air noise at the First Tier Eligibility Criterion of 57 dB $L_{Aeq,16h}$. Additional mitigation is offered at air noise exposure levels of 63 dB $L_{Aeq,16h}$, the Intermediate Tier Eligibility Criterion, and 66 dB $L_{Aeq,16h}$, the Second Tier Eligibility Criterion.

The sound insulation scheme under CADP1 for Residential Buildings is summarised below. Public Buildings are assessed on a case by case basis in accordance with the procedures set out in the Section 106 Agreement.

⁷ The full details of the Scheme (with CADP1) are documented within Annexures 2, 7 and 12 of the Section 106 Agreement dated 27th April 2016.

Sound Insulation Scheme – Residential Buildings

Scheme	Threshold $L_{Aeq,16h}$	Scheme under CADP1
First Tier	57 dB	100% costs of secondary glazing or 100% costs of DG to existing single glazed properties. Acoustic vents
Intermediate Tier	63 dB	Secondary glazing and acoustic vents or £3000 (index linked) towards HPDG and acoustic vents
Second Tier	66 dB	100% costs of secondary glazing or HPDG in place of only a contribution to HPDG. Acoustic vents

DG – Standard thermal double glazing, HPDG – High (Acoustic) Performance double glazing

The first tier of works ensure any existing single glazed properties that are eligible under the scheme will be offered 100% of the cost for replacement standard thermal glazed windows or secondary glazing, whichever is preferred. Residential premises in general will continue to be offered sound attenuating ventilators (acoustic ventilation) to provide background ventilation without the need to open windows.

Under the intermediate tier works, for those residential properties that are already or become exposed to air noise at a level of 63 dB $L_{Aeq,16h}$, an offer of secondary glazing and acoustic ventilation will be made or alternatively, a contribution of £3,000 (index linked) towards high performance acoustic double glazing and acoustic vents. Under this scheme, residents who prefer the high performance double glazing option may choose to treat only one or two rooms, such as those most affected by aircraft noise, as opposed to all rooms, to remain within the budget available or they may use the £3,000 (index linked) as a contribution towards more extensive works.

For those most affected, that is those that become exposed to air noise at the Second Tier Eligibility Criterion of 66 dB $L_{Aeq,16h}$, they are offered improved secondary glazing or a 100% contribution towards high performance double glazing, together with acoustic ventilation. This will ensure that all of those most affected by noise are afforded the maximum noise protection opportunity. The Airport will also inspect any previous treatments and rectify any damage caused by reasonable wear and tear.

The eligibility contours are currently produced every year as part of the Annual Performance Report. The scheme is delivered to eligible properties in accordance with a timescale agreed with the local authority and set out in detail in the current Section 106 agreement. The timescales for treatment are devised as far as reasonably possible to ensure that the scheme will be delivered and in place by the time that residents become exposed to noise of 57 dB $L_{Aeq,16h}$ based on an average summer day. Second Tier and Intermediate Tier properties that are exposed to higher levels of noise are treated as a priority.

If an urgent need arises for installations in eligible properties closest to the Airport (within the 63 and 66 dB contours) that have not been treated but have already accepted an offer of works, the Airport shall target the following response times for installation:

- 1 month for double glazing (from complaint received to installation)
- 21 day for secondary glazing
- 1 week for ventilation units.

Properties that are being prioritised will be tracked and managed on a case-by-case basis. Urgency will be based on factors such as which contour they sit in, occupant's sensitivity and current level of insulation.

The noise contours are produced annually (using actual summer-period operational data), compliant with approved European calculation methodology. The noise contours are used, along with information on when the properties were built, to determine eligibility for sound insulation treatment.

The sound insulation requirements of all public buildings in community use within the 57, 63 and 66 dB $L_{Aeq,16h}$ noise contours are to be assessed individually, based on the use of the building, the current and future levels of aircraft noise and recommended internal noise standards, and works agreed as necessary with the local authority.

In addition to the above, all properties that have been treated under the scheme will be inspected on a ten yearly basis after initial installation of any treatment, and provided they have not been altered, rectification works will be carried out as necessary to ensure the sound insulation standard does not decline over time.

Where new properties are granted planning consent within the Airport's noise contours, the Airport will encourage local planning authorities to incorporate published noise contours into decisions on new residential development, with a view to ensuring that acceptable noise levels will be achieved within new homes and other noise sensitive developments through the use of reasonable, robust and enforceable design standards.

J.2 PURCHASE SCHEME

Any eligible properties that fall within the 69 dB $L_{Aeq,16h}$ noise contour will receive an offer from the Airport to purchase the property at the open market value within 6 months of the owner/occupier making an application for the Airport to do so⁸.

Any properties that are found to lie within the current 69 dB $L_{Aeq,16h}$ noise contour would be identified and contacted in accordance with the Purchase Scheme's requirements.

J.3 REINSPECTION SCHEME

For those eligible residential properties that were treated under the scheme at least 10 years ago, a free inspection is offered and rectification works undertaken where appropriate to ensure that the standard of sound insulation does not decline over time⁹.

⁸ The full details of the Scheme are documented within Annexure 5 of the Section 106 Agreement dated 27 April 2016 (with CADP1) and within Part 12 of the Fourth Schedule and Part 14 of the Ninth Schedule to the Section 106 Agreement dated 9 July 2009 (without CADP1).

⁹ The full details of the Scheme are documented within Annexure 6 of the Section 106 Agreement dated 27 April 2016 (with CADP1) and Part 1 of the Fourth Schedule to the Section 106 Agreement dated 9 July 2009 (without CADP1).

APPENDIX 2: RELEVANT PLANNING CONDITIONS (EXTRACTS)

The planning conditions relevant to noise control and mitigation from the 2016 planning permission 13/01228/FUL are given in the table below. These are taken from the latest update, dated 5th October 2020.

No.	Condition Title	Description (Extract)
6	Noise Barrier Phasing	<p>No new or modified aircraft stands shall be brought into operation until a written scheme has been submitted to and approved in writing by the local planning authority indicating which one of the following mitigation options has been adopted:</p> <ul style="list-style-type: none"> the external building envelope of the East Pier north elevation is substantially complete; or the Eastern Noise Barrier is substantially complete; or such other temporary noise barrier that has been approved in writing by the local planning authority is in place. <p>The applied temporary mitigation shall be installed prior to the operation of the new or modified stands as shown on Plan P1 and retained until replaced by the permanent noise mitigation measure which shall be retained thereafter.</p>
8	Aircraft Maintenance and Repair	<p>Except in exceptional circumstances, no maintenance or repair work of aircraft and/or aircraft related machinery which causes noise that is audible at the Airport Boundary and/or at any Sensitive Receptor shall take place at the Airport other than between the hours of:</p> <ul style="list-style-type: none"> 0630 and 2200 Monday to Friday inclusive; 0630 and 1230 on Saturday; 1230 and 2200 on Sunday; and 0900 and 2200 on Bank Holidays and Public Holidays. <p>All such activity outside the specified hours set out above causing noise that is audible at the Airport Boundary shall be reported to the local planning authority within 24 hours of occurrence.</p>
17	Aircraft Take-Off and Land Times	<p>Except in cases of immediate emergency to an aircraft and/or the persons on board, the Airport shall not be used for the taking off or landing of aircraft at any time other than between the hours of: 0630 and 2200 on Monday to Friday inclusive; 0900 and 2200 on Bank Holidays and Public Holidays (with the exception of Christmas Day in condition 27); 0630 and 1230 on Saturdays; and 1230 and 2200 on Sundays; provided that these restrictions shall not prevent an aircraft which was scheduled to take-off from or land at the Airport but which has suffered unavoidable operational delays, from taking off or landing at the Airport between 2200 hours and 2230 hours Sunday to Friday and 1230 hours to 1300 hours on Saturday and where that taking off or landing would not result in there being more than 400 Aircraft Movements at the Airport per calendar year outside the above permitted hours of operation comprising no more than 150 such movements in any consecutive three months.</p>
18	Aircraft Noise Categorisation Scheme	<p>a) Prior to the first beneficial use of the Development an Aircraft Noise Categorisation Scheme shall be submitted to and approved</p>

		<p>in writing by the local planning authority;</p> <p>b) such an Aircraft Noise Categorisation Scheme shall be implemented as approved and thereafter the Airport shall be operated in accordance with the approved Aircraft Noise Categorisation Scheme or any review thereof that has been approved in writing by the local planning authority;</p> <p>c) subsequent to implementation of the approved Aircraft Noise Categorisation Scheme (except in the case of immediate emergency to aircraft and/or persons on board), no aircraft shall land at or take-off from the Airport unless the type of aircraft has first been categorised in accordance with the approved Aircraft Noise Categorisation Scheme;</p> <p>d) the Aircraft Noise Categorisation Scheme shall be based on and include (but not be limited to):</p> <ul style="list-style-type: none"> i. a Quota Count System in use for night noise at other UK designated airports; ii. the use of the Integrated Federal Aviation Authority Integrated Noise Model Version 7 or later version adjusted for the specific characteristics of London City Airport; iii. a Quota Count classification in 1dB steps; iv. a programme of parallel operation with the Noise Factored Scheme; v. an overall Quota Count budget for each calendar year; vi. a maximum permitted noise level or Quota Count classification; and vii. the noise exposure permissible as a result of Quota Count Budget for annual Aircraft Movements, which shall be: <ul style="list-style-type: none"> • equivalent to 120,000 Noise Factored Movements per calendar year (as • determined in accordance with the Noise Factored Scheme); • no worse than the airborne aircraft noise effects assessed in the UES; and • in accordance with Condition 33 (noise contour area); and <p>e) the approved Aircraft Noise Categorisation Scheme shall supersede the Noise Factored Movement Scheme immediately upon the written approval by the local planning authority of the review of the Aircraft Noise Categorisation Scheme after 12 months of its introduction in accordance with Condition 19, and subsequently the total realised Quota Count at the Airport shall not exceed the approved Quota Count Budget in any calendar year.</p>
19	Review and Reporting on the Approved Aircraft noise Categorisation Scheme	<p>Following implementation of the Aircraft Noise Categorisation Scheme approved pursuant to Condition 18:</p> <p>a) a report shall be submitted to the local planning authority annually on 1 June or the first working day thereafter as part of the Annual Performance Report on the performance and/or compliance with the approved Aircraft Noise Categorisation Scheme during the previous calendar year; and</p> <p>b) the approved Aircraft Noise Categorisation Scheme shall be reviewed not later than the 1st and 4th year after its introduction and every 5th year thereafter. The reviews shall be submitted to the local planning authority within 3 months of such review dates</p>

		for written approval and implemented in accordance with an approved timeframe and maintained thereafter.
22	Maximum Permitted Actual Aircraft Movements per hour as Timetabled	The scheduled number of Actual Aircraft Movements including business, commercial, charter and private Aircraft Movements shall not exceed 45 in total in any given hour.
23	Maximum Permitted Actual Aircraft Movements (days/year)	The number of Actual Aircraft Movements at the Airport shall not exceed: a) 100 per day on Saturdays; b) 200 per day on Sundays but not exceeding 280 on any consecutive Saturday and Sunday; c) subject to (d) to (j) below 592 per day on weekdays; and d) 132 on 1 January; e) 164 on Good Friday; f) 198 on Easter Monday; g) 248 on the May Day Holiday; h) 230 on the late May Bank Holiday; i) 230 on the late August Bank Holiday; j) 100 on 26 December; and k) 111,000 per calendar year.
24	Maximum Permitted Actual Aircraft Movement on Other Bank Holidays	In the event of there being a Bank Holiday or Public Holiday in England which falls upon or is proclaimed or declared upon a date not referred to in sub-paragraph (d) to (j) inclusive of Condition 23, the number of Aircraft Movements on that date shall not exceed 330 unless otherwise agreed in writing by the local planning authority but in any event shall not exceed 396.
25	Maximum Permitted Actual Aircraft Movement limit between 0630 hours and 0659 hours on Mondays to Saturdays	The maximum number of Actual Aircraft Movements between 0630 and 0659 hours on Mondays to Saturdays (excluding Bank Holidays and Public Holidays when the Airport shall be closed for the use or operation of aircraft between these times) shall not exceed 6 on any day.
26	Maximum Permitted Actual Aircraft Movement limit between 0630 hours and 0645 hours on Mondays to Saturdays	Notwithstanding the restriction on Actual Aircraft Movements between 0630 hours and 0659 hours, as set out by Condition 25, the total number of Actual Aircraft Movements in the period between 0630 hours and 0645 hours on Mondays to Saturdays (excluding Bank Holidays and Public Holidays when the Airport shall be closed for the use or operation of aircraft between these times), shall not exceed 2 on any day.
27	Christmas Day Closure	The Airport shall be closed on Christmas Day each year for the use or operation or maintenance of aircraft or for passengers, with no Aircraft Movements and no Ground Running by aircraft engines.
31.	NOMMS (Noise Management and Mitigation Strategy)	Prior to the Commencement of Development a Noise Management and Mitigation Strategy (NOMMS) shall be submitted to the local planning authority for approval in writing. The NOMMS shall be implemented as approved and thereafter the Airport shall only operate in accordance with the approved NOMMS. Following implementation of the approved NOMMS, a report shall be submitted to the local planning authority annually on 1 June (or the first working day thereafter) as part of the Annual Performance Report on the performance and compliance with the approved NOMMS during the previous 12 month period. The approved NOMMS shall be reviewed not later than the 5th year after approval and every 5th year thereafter. The reviews shall be submitted to the local planning authority within 3 months

		<p>of such review dates for approval in writing, and implemented as so approved. The NOMMS shall include, but not be limited to:</p> <ul style="list-style-type: none"> • Combined Noise and Track Monitoring System; • Quiet Operating Procedures; • Penalties and Incentives; • Control of Ground Noise; • Airport Consultative Committee; • Annual Noise Contours; • Integrity of NOMMS; • Auxiliary Power Units; • Reverse Thrust; and • Sound Insulation Scheme.
32	Additional Noise Monitoring Terminals	<p>No part of the Development shall be brought into beneficial use unless and until the Noise Monitoring Terminals (NMT) 1 to 6 inclusive as shown on Plan P6 are in place and operational or such alternative equipment and/or locations as shall be approved in writing by the local planning authority are in place and operational.</p> <p>Thereafter such NMTs shall be retained and operated in accordance with details first to be submitted to the local planning authority for approval in writing.</p>
33	Fixing the Size of the Noise Contour	<p>The area enclosed by the 57dB LAeq 16hr Contour shall not exceed 9.1 km² when calculated by the Federal Aviation Authority Integrated Noise Model Version 7 or later version.</p> <p>Within five years of the Commencement of Development a Noise Contour strategy shall be submitted to the local planning authority for approval in writing which defines the methods to be used by the Airport operator to reduce the area of the Noise Contour by 2030.</p> <p>Thereafter the Airport shall be operated in accordance with the approved Noise Contour strategy. The approved Noise Contour strategy shall be reviewed not later than the 5th year after approval and every 5th year thereafter in order to seek further reductions in the size of the Noise Contour by 2030 and beyond. The reviews shall be submitted to the local planning authority for approval in writing within 3 months of such review dates and implemented as approved.</p>
44	Ground Power Strategy (Amended in Sep 20)	<p>The aircraft stands hereby approved shall only be served by Fixed Electrical Ground Power (FEGP), battery-powered Mobile Ground Power Units (MGPUs) or equivalent equipment in accordance with the Ground Power Strategy dated June 2020.</p>
45	Use of Ground Power (Amended in Sep 20)	<p>Except in a case of emergency or if faults occur, no aircraft on an operational aircraft stand shall use a diesel Mobile Ground Power Unit for conditioning an aircraft prior to engine start-up or for the starting of an aircraft engine.</p>
46	Mobile Ground Power Units (Amended in Sep 20)	<p>Only zero emission battery-powered Mobile Ground Power Units (MGPUs) shall be used anywhere within the Airport after 30 June 2021. Up to and including 30 June 2021 MGPUs shall only be used during, and in the period 30 minutes before and the period 30 minutes after the permitted take-off and landing. Noise from the zero emission MGPU shall not exceed 65dB(A).</p>
47	Auxiliary Power Units	<p>The use of any Phase shall not begin until an Auxiliary Power Unit Strategy for that Phase has been submitted to and approved in writing by the local planning authority and implemented as</p>

		<p>approved.</p> <p>The submitted strategy shall include but not be limited to provide details of the position, orientation and use of aircraft before and after landing and taking off including conditioning of the cabin and equipment.</p> <p>Except in cases of immediate emergency to persons on board an aircraft, or where fault occurs, no Auxiliary Power Unit shall be used other than for essential conditioning of aircraft cabins and equipment prior to departure limited to a maximum of 10 minutes before an aircraft's departure from the stand or 10 minutes after an aircraft's arrival on the stand.</p> <p>Annually on 1 June (or the first working day thereafter) in each year after the Commencement of Development and as a part of the Annual Performance Report, LCY shall provide a report containing details of the use of Auxiliary Power Units at the Airport in the previous calendar year.</p>
48	Ground Engine Running Strategy (Approved in May 17)	<p>No Development shall Commence until a Ground Engine Running Strategy has been submitted to and approved in writing by the local planning authority.</p> <p>The Ground Engine Running Strategy as approved shall be implemented upon Commencement of Development. The local planning authority shall be notified in writing within 14 days of implementation of the Ground Engine Running Strategy.</p> <p>A report shall be submitted to the local planning authority annually on 1 June (or the first working day thereafter) as part of the Annual Performance Report on the performance and or compliance during the previous calendar year with the approved targets in the Ground Engine Running Strategy.</p> <p>Every 3 years after first implementation the Ground Engine Running Strategy shall be reviewed and the review shall be submitted to the local planning authority for approval in writing on 1 June (or the first working day thereafter) and implemented as approved.</p> <p>The strategy shall identify measures to:</p> <ul style="list-style-type: none"> • minimise engine usage while aircraft occupy stands; • minimise the duration of engine usage whilst taxiing; and • ensure the operators of aircraft at the Airport comply with the approved strategy in order to mitigate as far as practicable the emissions from aircraft engines.
49	Ground Running, Testing and Maintenance Strategy (Approved in Mar 17)	<p>No Development shall Commence until a Ground Running, Testing and Maintenance Strategy (GRTMS) has been submitted to and approved in writing by the local planning authority. The approved GRTMS shall be implemented on Commencement of the Development.</p> <p>A Report to the local planning authority shall be submitted annually on 1 June (or the first working day thereafter) as part of the Annual Performance Report on the performance and compliance during the previous calendar year with the targets in the GRTMS. Every 3 years after first implementation the GRTMS shall be reviewed and the review shall be submitted to the local planning authority for approval in writing on 1 June (or the first working day thereafter) and implemented as approved.</p> <p>Within 14 days of its implementation, the local planning authority shall be notified of the implementation of the GRTMS.</p>

		<p>The strategy shall identify:</p> <ul style="list-style-type: none"> the long-term area for testing; and areas for testing during periods of construction affecting the long term agreed location.
50	Ground Running, Testing and Maintenance	<p>Unless in exceptional circumstances, the Ground Running of aeroplane engines for testing or maintenance purposes shall only take place between the following hours:</p> <ul style="list-style-type: none"> i. 0630 and 2200 Monday to Friday; ii. 0630 and 1230 on Saturdays; iii. 1230 and 2200 on Sundays; iv. 0900 and 2200 on Bank Holidays and Public Holidays (but not at all on Christmas Day); and v. in such locations and with such orientation of the aircraft as set out in the approved GRTMS and employing such noise protection measures as set out in the approved GRTMS; <p>provided that the restrictions above shall not prevent aircraft maintenance work taking place outside of these hours where that work will not be audible at the Airport Boundary or at any Sensitive Receptor and provided this restriction shall not prevent Auxiliary Power Unit usage for essential conditioning of aircraft cabins and equipment prior to departure limited to a maximum of 10 minutes before an aircraft's departure from the stand or 10 minutes after arrival on the stand.</p>
51	Ground Running Noise Limit (Approved in Mar 17)	<p>The noise level arising from Ground Running shall not exceed the Ground Running Noise Limit.</p> <p>Prior to the Commencement of the Development hereby approved a strategy demonstrating how any breach(es) of the Ground Running Noise Limit through Ground Running are to be prevented shall be submitted to and approved in writing by the local planning authority. The Strategy as approved shall be implemented upon commencement of use of the Development.</p>
52	Ground Running Annual Performance Report	<p>The local planning authority shall be provided with the following annually on 1 June (or the first working day thereafter) as part of the Annual Performance Report:</p> <ul style="list-style-type: none"> a) written details of Ground Running that has taken place during the preceding calendar year including details of the number, duration and power setting of ground runs and the types of aircraft involved; and b) written measurements and calculations to show whether the Ground Running Noise Limit has been exceeded as a result of Ground Running during the preceding calendar year.
53	Permanent Eastern Apron Extension Noise Barrier (Approved in Apr 18)	<p>The Development shall not Commence until a scheme showing the location, dimensions and materials of the permanent noise barrier on the eastern apron extension has been submitted to and approved in writing by the local planning authority.</p> <p>The permanent noise barrier shall be installed prior to the first operation of the stands shown in red on Plan P1 and retained thereafter.</p>
54	Retention of all existing Noise Barriers	<p>No part of the Airport shall be used unless all existing noise barriers shown on Plan P7 are in place or alternatives that have been approved pursuant to Condition 6 or Condition 53 are in place. Such noise barriers shall be retained thereafter (provided always that any temporary noise barrier approved pursuant to Condition 6 and/or Condition 94 can be removed subject to the</p>

		<i>prior approval in writing of the local planning authority).</i>
55	<i>Ground Noise Study (Approved in Jul 18)</i>	<p><i>No Phase of the Development shall Commence until a Ground Noise Study has been submitted to and approved in writing by the local planning authority in respect of that Phase. Noise mitigation measures identified as being necessary in each Ground Noise Study as approved by the local planning authority shall be provided within six months of obtaining any necessary consents for these identified mitigation measures.</i></p> <p><i>Thereafter ground noise studies shall be undertaken at intervals of not less than three years from the date of approval of the first Ground Noise Study. Such additional ground noise studies shall be submitted to the local planning authority within 30 days of their completion. Any necessary mitigation measures identified within those studies shall be implemented as approved.</i></p>
59	<i>Complaints about Environmental Impact</i>	<p><i>1) A summary record shall be maintained of all complaints about the environmental impact of the operation of the Airport and any action taken to deal with or remedy such complaints.</i></p> <p><i>2) A detailed report shall be submitted of all complaints and any action taken:</i></p> <ul style="list-style-type: none"> <i>• to the local planning authority within 15 days of that complaint being made or that action being undertaken;</i> <i>• to the Airport Consultative Committee at the meeting of that Committee next following that complaint or that action; and</i> <i>• as part of the Annual Performance Report in relation to such complaints and actions in the preceding calendar year.</i> <p><i>3) Complaint records shall be made available for inspection at all reasonable hours by the local planning authority pursuant to Part 1 of this condition.</i></p>