



East Midlands Airport **Noise Action Plan**

Full Report



FOREWORD

The requirement for airports to produce a Noise Action Plan (NAP) forms part of a wider exercise by Government to comply with its obligations under the EU Environmental Noise Directive (END). Following the production of Strategic Noise Maps for the main sources of environmental noise, including major roads, railways and airports, together with major centres of population, airports were required to produce noise action plans in response to any particular or additional measures identified through the noise mapping process.

This is a relatively new discipline for those noise sources other than airports covered by the END whereas we have for many years routinely measured aircraft noise. We have produced and published noise contours and developed appropriate noise mitigation policies in conjunction with consultation with the local community. Nevertheless, the NAP process has provided a valuable opportunity for us to review our existing noise mitigation policies as part of an ongoing evolutionary process.

In December 2006, we published the Airport Master Plan which set out our vision of how we intended to grow the business in a sustainable manner and we committed to introducing a number of measures to mitigate the impact of noise on our neighbours.

The robustness of the more recent NAP process has validated the effectiveness of the noise measures we previously introduced – it did not reveal any new areas to address. After the public consultation on the draft NAP ended in October 2009 we carefully considered all the comments and responses received before submitting a revised draft to Government. It has taken the relevant Government departments much longer than was anticipated to complete their assessment but this has not prevented us from continuing to actively manage our local impacts and ensure that the noise mitigation measures we have in place continue to be robust and meet the requirements of the NAP.

This is an extremely challenging time for aviation but I believe that we have a bright future. We have always been conscious of the impact on those who live close to us and we will continue to strive to achieve the optimum balance, maximising our contribution to the region whilst seeking to minimise any adverse impact of aircraft operations on our neighbours.

We understand that the NAP represents a living document and will be subject to an ongoing and iterative process. It will be subject to regular review (which Government may require to be annual) which will allow us to continue to review our noise mitigation measures as circumstances change and national aviation policy evolves.



Brad Miller
Managing Director

CONTENTS

Foreword

Executive Summary

- 1 Introduction
- 2 Background
- 3 The Existing Framework
- 4 The Strategic Noise Maps
- 5 Looking Ahead
- 6 Public Consultation
- 7 Acceptability of Noise Impact of EMA
- 8 Monitoring and review

Appendices

- | | |
|-------------|--|
| Appendix 1A | Noise Maps |
| Appendix 1B | Forecast Night Time Contour -2016 |
| Appendix 2 | Membership of the Independent Consultative Committee |
| Appendix 3A | Population and Dwelling Exposure Statistics - EMA |
| Appendix 3B | Population Exposed to Noise at English Airports |
| Appendix 4 | List of Consultees |
| Appendix 5 | Current Noise Amelioration Measures |
| Appendix 6 | List of Respondents |
| Appendix 7 | Glossary of Technical Terms |

EXECUTIVE SUMMARY

This Noise Action Plan has been prepared by East Midlands Airport (EMA) in accordance with the requirements of Section 18 of the Environmental Noise (England) Regulations 2006 (as amended). These regulations transposed the EU Environmental Noise Directive (2002/49/EC), known as END, into UK legislation. Noise Action Plans are therefore a legal requirement and are supplemented by Guidance produced by Defra.

The Guidance required airports to carry out a public consultation process in accordance with the following timetable.

- Formal consultation on draft noise action plan commences 1 July 2009
- Formal consultation ends 21 October 2009
- Draft noise action plan submitted to Government 30 November 2009

Noise Action Plans (NAPs) are designed to manage noise issues and effects arising from aircraft departing from and arriving at their airport, as shown in the Noise Mapping (maps produced in accordance with earlier Defra guidance, which will be explained later) including noise reduction where necessary. NAPs support the Government's aim – set out in the White Paper, the Future of Air Transport, December 2003, commonly known as the Air Transport White Paper (ATWP) – to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.

The Noise Action Planning process involves airports considering the noise impact of their operations as shown by the Strategic Noise Mapping exercise together with the current control measures they have in place, and then coming to a view as to whether or not the noise impact is acceptable. If it is considered acceptable, then it can be assumed that the current control measures are adequate, if not, then further action is required.

The Airport has in recent years developed an increasingly wide ranging package of measures designed to mitigate its impact on its neighbours whilst at the same time seeking to make the most of its economic benefit to the region. The package of measures was further refined following very extensive public consultation which informed the Airport Master Plan, published in December 2006.

The Airport has been in the forefront of monitoring noise from aircraft operations for many years and publishes noise contours each year which are available from the website. It is clear that the noise contours on the maps produced as a result of the Strategic Noise Mapping exercise are the same shape as those which have been regularly produced and published by the Airport. The Noise Maps do not identify areas of noise exposure which have not already been considered in formulating the current noise amelioration programme.

Against this background, the Airport's initial view was that the new Strategic Noise Maps did not suggest the need for any substantive changes to the existing, comprehensive range of measures and we consulted the public on that basis.

The Draft NAP accepted, however, that in time further incremental improvements would be possible and the Airport would use the consultation to consider, in an open and constructive way, further amendments or additions to the measures which are currently enforced. In doing so, the guiding objectives set out in the Guidance would form the context for considering any new or amended control measures, particularly the requirement that *“Any new noise control measure that is considered for inclusion as part of the Action Plan must take into account the cost of implementation and the likely benefit to be accrued.”*

EMA consulted on its Draft NAP as required by the Guidance and we have sought to undertake this consultation in an inclusive and professional manner. A list of respondents is provided in Appendix 6.

The general approach to the consultation is described in Section 6 which provides an overview of the comments and responses made on the Draft NAP. The 26 changes made to the NAP in the light of the consultation process are set out in Section 6.6. We have not however changed any of our existing noise controls or added any new ones as a result of the consultation process.

As required by the Guidance a summary of not more than 10 pages has also been prepared. In addition a report on the Consultation Process and Responses has been prepared by the Airport.

The Airport wishes to put on record its thanks to all those who responded to the consultation and attended the Outreach Events, particularly members of our Independent Consultative Committee who have been involved at all stages of the process.

1 **INTRODUCTION**

1.1 **Statutory Framework**

This NAP has been prepared by EMA in accordance with the requirements of Section 18 of the Environmental Noise (England) Regulations 2006 (as amended). These regulations transposed the EU Environmental Noise Directive (2002/49/EC), known as END, into UK legislation. Noise Action Plans are therefore a legal requirement. We welcome the opportunity that this has provided to review our existing package of mitigation measures developed during the Master Plan preparation process.

1.2 **Time Frame**

It was not possible for airports to prepare the required Draft NAP in the absence of guidance from the Government and this guidance was delayed, not least due to the need for the Government to consult on draft guidance. The final Guidance was published by the Department for Environment, Food and Rural Affairs (Defra) in March 2009, (the Guidance). An accompanying letter from Defra dated 26th March 2009 set out the timetable for the production of a Draft NAP, reproduced below, and EMA has proceeded in accordance with this timetable.

- Formal consultation on draft noise action plan commences 1 July 2009
- Formal consultation ends 21 October 2009
- Draft noise action plan submitted to Government 30 November 2009

The Guidance, which is available on the Defra website, is detailed and airport operators must have regard to it when drawing up NAPs. Accordingly, EMA took full account of the Guidance when preparing the Draft Noise Action Plan and the layout of this document is designed around the Guidance.

1.3 **Public Consultation and Process**

The Guidance lays down specific requirements for the purposes of public consultation which we have followed. On completion of the public consultation EMA considered all comments and responses received and revised the Draft NAP. If approved by Government it will become the EMA Noise Action Plan.

1.4 **Terminology**

The scientific terminology for the measurement of noise is complex in addition to which the Guidance also introduces a number of technical terms which are critical to the process. In this NAP, we have sought to minimise the use of jargon wherever we can and where technical terms have to be used we have tried to explain them clearly in the text as well as in the Glossary which can be found at Appendix 7.

2 BACKGROUND

2.1 Purpose of Noise Action Plans (NAP)

NAPs are designed to manage noise issues and effects arising from aircraft departing from and arriving at their airport, as shown by the results of Strategic Noise Mapping (maps produced in accordance with earlier Defra guidance, which will be explained later). NAPs must include a description and assessment of the existing framework of control relating to noise from the airport. They support the Government's aim – set out in the White Paper, the Future of Air Transport, December 2003, commonly known as the Air Transport White Paper (ATWP) – to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.

The Noise Action Planning process involves airports considering the noise impact of their operations as shown by the Strategic Noise Mapping exercise together with the current control measures they have in place, and then coming to a view as to whether or not the current noise impact is acceptable. If it is considered acceptable, then it can be assumed that the current control measures are adequate, if not, then further action is required.

2.2 Strategic Noise Mapping Exercise

The first stage in this process was for airports, including EMA, to prepare Strategic Noise Maps in 2007, based on aircraft movements in 2006 (Appendix 1A). As required, these were submitted to the Secretary of State. (Noise Maps for all relevant UK airports are available on the Defra, web site and a copy of this draft NAP has been put on the Airport's website).

These maps can be regarded as the evidence-base which underpins the Noise Action Planning process. EMA has, for many years, produced noise contours or maps annually. These are made available to everyone by being placed on the Airport's website. The Strategic Noise Mapping exercise carried out to support the NAP planning process uses the same noise model, the Federal Aviation Authority's Integrated Noise Model, and the modelling exercise is very similar to the annual exercise carried out by the Airport.

However, there are two key differences. These are the assessment period, which for the NAP is required to be the full calendar year whereas the Airport has traditionally assessed the noise during the peak summer period as a worst case. The other difference is the presentation of the results using a new measure known as the "Lden " (for Day, Evening and Night).

2.3 Overview of Noise Action Plan Requirements

The Guidance makes it clear that the NAP must be drawn up for places near the Airport, which it goes on to explain means those places affected by the noise from Airport operations, as shown by the results of the Strategic Noise Mapping. This approach has been followed by EMA and the Plan Area is shown on the maps, which are included as Appendix 1A. It includes those villages closest to the Airport principally Kegworth, Castle Donington, Melbourne, Sutton Bonington and East Leake. Note that for the purposes of the NAP no other sources (such as ground noise from aircraft activities) are to be taken into account, only the noise from aircraft departing and arriving at the Airport. Once again this approach has been followed by the Airport.

NAPs must also include “a description and assessment of the existing national and local framework of control directly or indirectly relating to the management of noise from the airport e.g. current government policies, noise preferential routes, Airport Master Plans, any local planning agreements and restrictions, and local voluntary agreements etc.” Again this approach has been followed by the Airport having regard in particular to the current Master Plan (published in December 2006), which sets out the current noise mitigation programme, and the Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003, commonly referred to as “The Balanced Approach”, which dictate the process which the Airport must adopt in formulating noise controls.

There is a requirement for Draft NAPs to be subject to public consultation and for approved NAPs to be subject to monitoring and review. These provisions are considered in more detail later. At this stage it should be noted that the Airport’s Independent Consultative Committee (ICC) has been fully involved in the process and the subject has been considered by the Airport’s Strategic Development Forum. Membership of the ICC is listed in Appendix 2.

Following public consultation there is a requirement for the Draft NAP, revised as appropriate to be submitted to the relevant Secretary of State for adoption, accompanied by a summary of not more than 10 pages in length. Summaries of the adopted plans will be forwarded by Defra to the European Commission as required by END. Both documents have been prepared by EMA.

There is a specific requirement that NAPs must make special provisions for “quiet areas” located in large towns and cities (defined in the END and referred to as agglomerations) and where possible to avoid over flights of National Parks and Areas of Outstanding Natural Beauty below 7,000 feet. However, these provisions are not relevant to EMA, as the Airport Noise Maps do not impact upon any agglomeration and aircraft operating to or from the Airport do not usually fly over National Parks or areas of Outstanding Natural Beauty below 7,000 feet.

In addition to considering the special requirements of quiet areas within agglomerations, the Guidance suggests that airports investigate opportunities for protecting quiet areas in general, using “ameliorative measures such as sophisticated flight path management”. The Airport makes use of a number of flight path management techniques and other procedures, as set out in Section 3. All Local Authorities impacted by the noise maps were consulted on the Draft Plan and the Airport will continue to give special consideration to any quiet areas or noise sensitive buildings in liaison with these local authorities and the National Trust.

The format must also conform to a number of detailed requirements. The Airport has followed these requirements which have guided the format of this NAP.

3 EXISTING FRAMEWORK

3.1 Description of the Airport

EMA is located in the Three Cities Sub-Region of the East Midlands. It is located in a largely rural area, roughly equidistant from the cities of Nottingham, Leicester and Derby. Several villages are located relatively close to the Airport. It has one of the largest catchment areas of any airport in the UK, with 10.8 million people living within ninety minutes' drive. It enjoys a strategic position in the centre of the country with excellent links via the adjacent motorway network to the rest of the UK – over 89% of mainland England and Wales is within 4 hours truck driving time. This central location, away from major concentrations of population, makes it particularly suitable as the UK's leading express freight hub.

Traditionally the physical development of the Airport has been along an east/west axis south of the existing runway, west of the M1 and north of the A453. Our assessment of development options, undertaken for the Master Plan using 10 sustainability criteria including noise, confirmed that this broad development strategy should continue, thus minimising any change to the overall character of land-use, new land-take and noise.

EMA carried 5.4m passengers and handled 304,900 tonnes of cargo in 2007 and 5.6m passengers and 295,000 tonnes of cargo in 2008. The Airport is:

- the 12th largest passenger airport in the UK offering flights to over 80 destinations ;
- the largest “pure freight” airport in the UK, “pure” freight being freight carried in dedicated freighter aircraft;
- the second largest airport in the UK for freight overall;
- the UK's leading airport for express freight ;
- Royal Mail's largest UK hub for flown mail and the main centre of UK operations for DHL and UPS;
- a major regional employer with roughly 6,500 people working directly for more than 100 companies located on or near the Airport site. Around a third of the jobs are now related to cargo operations.

The ATWP forecast that by 2030, EMA could attract between 12-14 million passengers per annum and be handling 2.5 million tonnes of freight a year. For this to happen, the White Paper accepted that any expansion of the Airport should be accompanied by stringent controls, on night noise in particular.

Information on the number of total aircraft movements at EMA, disaggregated to show passenger and freight movements by day and by night between 2006 and 2008, is shown in Figure 1 below.

Figure 1 - Aircraft movements by type

Movement type		2006	2007	2008
Day	Passenger	35,196	38,411	41,122
	Freight	4,585	5,340	6,264
	Mail	1,559	1,338	1,320
	Total	41,340	45,089	48,706
Night	Passenger	4,058	5,035	6,132
	Freight	10,815	11,175	10,762
	Mail	3,125	3,678	4,540
	Total	17,998	19,888	21,434

Source: EMA data

3.2 The Authority Responsible for the EMA NAP

East Midlands International Airport Limited, which is part of the Manchester Airports Group, is the authority responsible for the production of this NAP.

3.3 Managing the Impact

3.3.1 Introduction

EMA impacts upon peoples' lives in various ways. Whilst it brings a wide range of jobs, services, economic benefits and prosperity to the East Midlands Region, we recognise that it can cause real concerns for local communities.

If EMA is to play its part in achieving the forecast growth as part of the Government's national policy and thereby maximising the benefits to the East Midlands, we must do everything reasonable to minimise its environmental and social costs in line with the principles of sustainable development.

We accept that night flying largely, but not exclusively, driven by the growth of pure air freight operations, is of particular concern to some people and we are committed to mitigating its impact.

Managing the environmental impact of our operations in a responsible and effective manner underpins everything we do. The Government's support for the Airport's further growth is subject to stringent controls on night noise in particular and other mitigation measures.

This means that the potential environmental impact, especially the effects of night flying, has a particular significance for us.

We remain very proud of the fact that in 2002, EMA became the first airport in the UK to be certified to the ISO14001 international environmental management standard and we are committed to maintaining this certification. One of the key requirements is to operate an environmental management system which is independently audited every 6 months.

The Airport has maintained certification to ISO14001 since 2002 by demonstrating that it has:

- complied with its own published policy;
- complied with legislation; and
- continued to improve its environmental performance.

The responsibilities inherent in maintaining ISO14001 certification are not confined to the Airport Company; we monitor the performance of other on-site companies to ensure a consistent environmental standard and report regularly on the outcome of audits to the Independent Consultative Committee.

Our strategy to manage the noise impact of our operations is consistent with the regulatory framework, set out in paragraph 3.5. and a table of the current noise amelioration measures is attached to this report as Appendix 5.

3.4 Aircraft Noise: Background

3.4.1 Measuring Noise

Aircraft noise measurement is a complex subject but in the simplest terms the type of measure most commonly used is a measure of the average noise energy over a specified time, which could be the 24 hour day or part of a day, such as an 8 hour night time period. This type of measure attempts to present the effect of a varying number of "noise events" produced by aircraft during that period, with quiet intervals in between, as an average noise level expressed in decibels. The most commonly used measure is referred to as the LEQ. As the human ear is more sensitive to certain sound frequencies, some measures attempt to simulate this effect producing an LAeq measure. In both cases, a number will normally appear after the letters indicating the period over which the measurement is taken, for example 8h, which normally measures noise between 23.00 and 07.00 hours, i.e. at night.

An alternative measure focuses on the loudest individual “noise events”. It attempts to do this by representing the noise energy generated by an aircraft passing an observer on the ground, which will rise to a peak then fall away again, in terms of the decibel level equivalent if the sound was compressed into a single second. This is known as the Sound Equivalent Level or SEL.

Both LAeq and SEL measures will be referred to in this document.

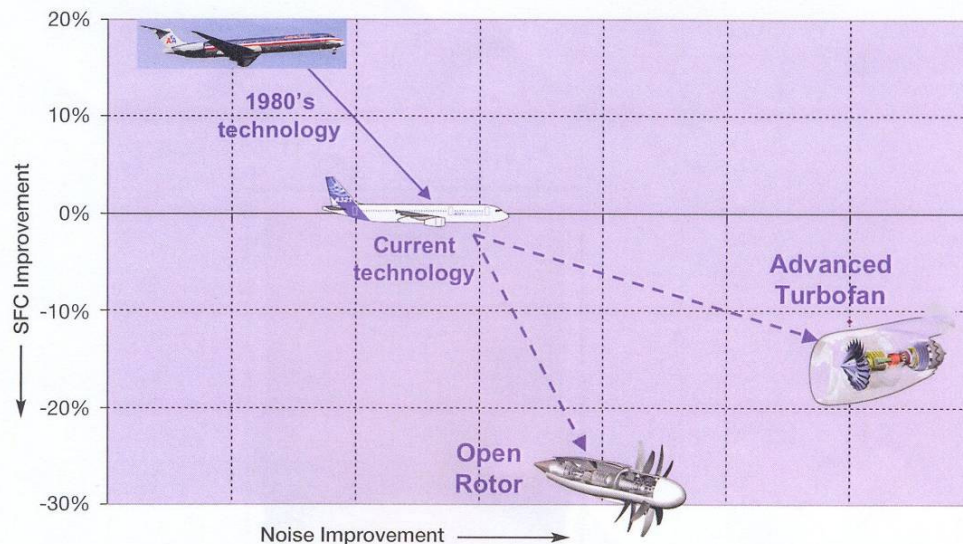
3.4.2 *Influencing Aircraft Noise*

Aircraft noise can be lowered by reducing the number of aircraft movements, by the introduction of quieter aircraft, by ensuring that aircraft operate as quietly as possible or its impact on people can be reduced by diverting aircraft away from populated areas.

Since 2000, the Airport has operated a noise and track-monitoring system and control programme. This provides constant “real-time” monitoring of noise levels and by recording radar information can assess whether aircraft have operated in accordance with agreed “flight paths” and other operational requirements. Financial incentives and penalties are levied to encourage airlines to operate quieter and generally greener and more modern aircraft and to fly them in the quietest manner possible, within safety constraints.

Improvements in technology have greatly reduced the noise from individual aircraft, particularly on departure. Modern aircraft are typically 20 decibels quieter than those of similar size operating 30 years ago. This continuing downward trend will be countered however by the increased frequency of future aircraft operations associated with the forecasts contained in the Air Transport White Paper.

Different characteristics of future technology options.
Source: Rolls-Royce.



Note: Specific fuel consumption, SFC, is an engineering term that is used to describe the fuel efficiency of an engine design with respect to thrust output. It allows the efficiency of different sized engines to be directly compared.

Whilst further improvements in technology are likely, aircraft operations will still result in relatively high levels of noise with the potential to disturb and annoy. This is particularly so at night when levels of background noise are generally lower.

3.5 Regulatory Framework

In seeking to minimise the impact of aircraft noise, the Airport is bound by the Government's regulatory framework. The Guidance makes specific reference to The Aerodrome (Noise Restrictions) (Rules and Procedures) Regulations 2003 which follow the principles set out by the International Civil Aviation Organisation (ICAO), known as the "balanced approach". In summary the "balanced approach" requires the consideration of the contribution to noise amelioration that can be made by each of the following measures:

- reducing aircraft noise at source;
- land-use planning;
- noise abatement operational procedures; and
- restrictions on the use of the noisiest aircraft.

When considering the need for operating restrictions, ICAO urges that they are not employed as a first resort but are only employed after careful consideration of the benefits to be gained from all other elements of the balanced approach.

This is part of the Government's overall "control, mitigate and compensate" approach.

3.6 Control of Noise at Source

The Airport has grown very significantly in recent years. Growth in the services operated by the 'low cost' carriers in particular has been rapid. Since 1996 when 1.8 million passengers used the Airport, numbers have increased to 2.4 million by 2001 and 5.4 million in 2007 and 5.6 million in 2008. The 'low cost' carriers have introduced modern and relatively quiet aircraft types and the effect of this can be seen by examining the change in the daytime ($57 \text{ dB}_{\text{LAEQ},16\text{h}}$) noise contour, which since 1996 has increased in area by only 41% compared to a 211% increase in passengers carried.

With regard to night noise, there has been an improvement in the noise around the Airport in recent years with the night noise contour ($57 \text{ dB}_{\text{LAEQ},8\text{h}}$) reducing to roughly 65% of its 1996 level, as of 2008. This decrease has been achieved despite a very substantial increase in freight operations which have increased from 116,000 tonnes in 1996 to 295,000 tonnes in 2008, an increase of 154%.

We are committed, as set out in our Master Plan, to ensure that night noise (measured as the 57 decibel night noise contour) remains at or below the 1996 level (14.6km²), until at least 2016, even with the further substantial growth that is forecast and this will only be achieved by continued investment by the cargo companies in newer quieter aircraft (see Appendix 1B for 2016 forecast contour). This clearly represents a significant and continuous improvement in the noise levels and in fuel use and carbon dioxide generation per tonne of freight flown, and will help to ensure that we maximise the economic and social benefits of aircraft operations, whilst bearing down on aircraft noise.

The choice of the 1996 footprint was not arbitrary but was the outcome of considered technical assessment. It represented a balance between seeking to protect the local noise climate and providing sufficient “head room” to meet the forecasts set out in the Air Transport White Paper. We came to the conclusion that despite our best endeavours to control noise at source and the use of modern operational measures, we could not meet the ATWP forecasts with a 57 decibel night noise contour of less than 14.6km² by 2016.

The long-term night noise contour target will remain subject to review in light of any changes in circumstances including when the Master Plan is reviewed and rolled-forward, when from time to time new official forecasts of passenger and freight growth are published and when the full impact of our developing controls, such as those to do with Chapter 4 aircraft and operational procedures, become evident. The present night noise footprint remains well below the target level of 14.6km² and is not forecast to grow substantially in the near future.

We have considered comments put to us which suggest that the noise contour target should be based on a lower night noise contour than 57 decibels, perhaps using 48 or 55 decibels. The Airport sees merit in adopting a target based on the 55 decibel night noise contour, particularly as this would align with the noise contour which is taken account of (along with other factors), in determining eligibility for our basic Sound Insulation Grant Scheme. This issue will be examined again in future reviews of the NAP, particularly when the Master Plan is reviewed and rolled forward and in light of any updates to official forecasts when it may be possible for the Airport to put forward a revised target.

It should be noted that the EMA noise control strategy set out in the Master Plan and confirmed by the NAP process is a long-term strategy. It runs from 2006 to 2016. There are several years for the strategy still to run but it is a strategy which will evolve over time and will be subject to regular review.

The Airport has sought to encourage its airline customers to use the quietest aircraft. The results have been encouraging with DHL’s replacement of its older Boeing 727 aircraft with quieter Boeing 757s in 2003 and more recently the replacement of the MD-11 aircraft by a mixture of new Boeing 767 and 777 freight aircraft. Ryanair has phased out its older Boeing 737-200 aircraft

in favour of the new generation Boeing 737-800 models. The Airport continues to encourage other airlines to replace their existing fleets with quieter models.

As we continue to bear down on noise, other measures set out in our Master Plan progress on which, as set out in our Monitoring and Implementation Report are being implemented include:

- setting a target, that, by 2012 all aircraft scheduled to operate at night will comply with the requirements of Chapter 4, the most stringent international noise standard for aircraft manufacturers;
- implementing a significant increase in the surcharge for any scheduled or ad-hoc daytime operations by the noisiest aircraft (movements rated as QC8 or 16) that slip into the night period for technical or other reasons;
- restructuring the Airport's charging regime for aircraft by introducing a Night Environmental Surcharge. This will ensure that aircraft that operate during the evening or night will pay a premium to do so. As night time flying is dominated by cargo operations, the regime has concentrated initially on cargo aircraft and those aircraft that both depart and arrive during the evening and night incur a surcharge on each element; and at night the level of surcharge is varied depending upon how noisy the aircraft type is. Operations by passenger aircraft are not being ignored however and as long term agreements expire the opportunity will be taken to introduce appropriate measures.
- continuing to work with Leicestershire County Council and other local authorities to consider arrangements for a novel night noise index.

3.7 Operational Practices

In accordance with the International Civil Aviation Organisation (ICAO) balanced approach, the Airport is committed to continue to adopt operational practices that minimise noise. For example, we encourage the use of Continuous Descent Approach (CDA) which, by keeping aircraft higher for longer during their descent reduces the noise impact and by minimising the use of the aircraft engines reduces fuel use and thus carbon dioxide generated by aircraft before they land at the airport. CDA is the quietest way of operating and is widely acknowledged as being best practice. A target of 80% of inbound aircraft achieving CDA is endorsed as a target by the Master Plan. The 80% target emerged as a demanding, challenging, quantifiable but achievable target following discussions with the pilots.

In addition, the Master Plan includes commitments to extend the ban on the noisiest aircraft and to make departure routings more effective by raising the minimum altitude limit at which aircraft are permitted to deviate from the noise preferential route from 3,000 feet to 5,000 feet.

Other operational practices to minimise noise in the Master Plan include:

- extending the current night ban on scheduled QC8 and 16 (the noisiest) aircraft to include ad-hoc cargo operations;
- maintaining and making progressively more stringent noise preferential departure routings to direct aircraft away from built-up areas, noting the potential of PR-Nav (an enhanced aircraft guidance system) to significantly improve track-keeping performance;
- increasing the stringency of the noise penalty scheme by reducing the level of noise that aircraft are allowed to make by, on average, 2 decibels;
- imposing further restrictions on training operations by civil jet aircraft to include a prohibition on training at night and a prohibition on Saturdays, as well as Sundays and Bank Holidays. As a further measure, training by civil jet aircraft that are operated by airlines that do not undertake regular operations from EMA will no longer be permitted;
- consulting airlines on our environmental and operational initiatives through the twice-yearly meetings of the Pilots' Liaison Group;
- continuing to report on compliance to the ICC;
- submitting our noise and track-keeping data to independent scrutiny; and
- making the track-keeping performance of arriving and departing aircraft available to public scrutiny via the Airport website.

It is these measures that have contributed significantly to minimising the noise impact of operations at the Airport.

3.8 Mitigation

Given its largely rural location, EMA's noise impact on surrounding communities, particularly in terms of the numbers of people affected, is modest compared with other airports on the periphery of, or within, large towns and cities (referred to in the Regulations as agglomerations).

We are nevertheless committed to providing noise protection and we therefore continue to offer mitigation to those living nearest the Airport, who are inevitably most impacted by aircraft noise. A review of our Sound Insulation Grant Scheme (SIGS) was carried out to inform the Master Plan process. This proposed among other things, the extension and enhancement of the SIGS to cover more people who live near the Airport as it grows, a proposal subsequently endorsed by the Master Plan and confirmed by the NAP process.

Government research (Report of a Field Study of Aircraft Noise and Sleep Disturbance 1992; DORA) suggests that there is no discernible impact on sleep disturbance to occupants of dwellings exposed to average levels of aircraft noise at night of less than 55 decibels ($55 \text{ dB}_{\text{LAEQ},8\text{h}}$). Independent studies at EMA show that there were approximately 1,100 dwellings exposed to this level of noise in 2001 and, despite this number reducing to approximately 600 at the time of the Master Plan and 970 by 2008, we continue to offer sound insulation grants to all 1,100 of those dwellings. Independent assessment indicates that the number of dwellings exposed to this level may ultimately increase reaching up to 1,800 dwellings by 2016.

The same research also considers the potential for single aircraft noise events to disturb sleep and has found that noise events below 90 dB (A)SEL are unlikely to cause any discernible impact on sleep disturbance. The Master Plan recognises that additional mitigation measures will be needed during the Master Plan period and accordingly committed the Airport to providing noise mitigation measures to occupants of any dwellings regularly exposed to noise at night above these threshold levels.

The SIGS scheme will continue to give priority to those affected by night flying and is designed to deal appropriately with the forecast growth in night flights. Our objective is to offer mitigation to the owners of houses that is proportionate to the noise that they experience as traffic grows. Mitigation ranges from increasingly extensive sound insulation schemes to an offer to purchase houses most significantly affected. Following review, we have determined that the following types of buildings will continue to be eligible for Sound Insulation Grant assistance.

The Master Plan mitigation commitments, which have since been confirmed by the NAP process include:

- incorporating houses in the 90dB(A)SEL contour limit of the noisiest aircraft in frequent use into the basic SIGS in order to give greater protection in future;
- offering increased compensation to those most heavily impacted by the operation of the Airport in the form of:
 1. increasing the basic SIGS by £1,000 to a maximum of £3,000 for houses in the $55\text{dB}_{\text{LAEQ},8\text{h}}$ contour limit and introducing detailed changes to the scheme rules to make them easier to implement;
 2. an improved SIGS with a maximum grant of £5,000 for houses in the $60\text{dB}_{\text{LAEQ},8\text{h}}$ contour;
 3. a further enhanced Sound Insulation Grant Scheme or one-off assistance with relocation costs up to £10,000 per house in the $66\text{dB}_{\text{LAEQ},8\text{h}}$ contour limit where the owner purchased before publication of the ATWP in December 2003;

- offering to re-roof any properties affected by wake vortex damage after one strike;
- introducing a scheme from which money can be made available for the insulation or appropriate treatment of primary schools and other sensitive buildings such as hospices near the Airport which would not otherwise qualify;
- working with the Local Planning Authority in our “safeguarding” role; and;
- investigating the potential for using landscaping bunds to ameliorate the effects of noise.

It should be noted that the Airport provides a safeguarding process, which functions through the planning system and begins with the Local Planning Authority (LPA). The LPA is required to consult a safeguarded airport on those developments that could potentially affect the safety of airport operations. Some development when undertaken in the vicinity of an airport may impact upon the safety of aircraft operations, such as the construction of tall structures in areas where aircraft operate at low altitude. EMA is one of 26 officially safeguarded aerodromes in England. The arrangements for safeguarding are defined in the Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction 2002.

In addition to the above, the Airport often comments on new noise sensitive developments proposed within areas of significant aircraft noise as determined by Planning Policy Guidance Note 24 (Planning and Noise). We will also sometimes comment on substantial noise sensitive development proposals further away from the Airport if they would lie beneath flight paths of aircraft using EMA. These comments are made purely on an advisory, non statutory basis and form part of our ISO14001 certification.

3.9 Targets and Assessment

There has been excellent progress in implementing the current noise amelioration programme as highlighted below.

Since the publication of the Master Plan in December 2006, EMA has:

- Put in place a target that by the end of 2012 all aircraft flying at night will be 'Chapter 4' – the most stringent international noise standard – compliant.
- Proposed a new night noise index developed in association with Leicestershire County Council and other local authorities relating to the impact of noise on our local communities.
- Raised the minimum height for departing aircraft to leave the noise preferential routes – routes designed to overfly as few people as possible.
- Continued to work with airlines and pilots to encourage them to use CDA (continuous descent approach) – a technique which results in aircraft making less noise as they come into land at EMA. Compliance is now over 80% on this key figure.
- Continued to operate an improved Sound Insulation Grant scheme, providing financial assistance for insulation to properties closest to the airport. The scheme, the most generous of any UK airport, has provided grants to over 550 homes.
- Banned training by civil jet aircraft on weekends and bank holidays.

Since 2007 complaints to the Airport about noise have fallen from 7,000 to 800 in 2010.

More details on these points follow below. We have found that the most effective way to proceed on these matters is to have regular meetings with airlines and pilots, provide support, encouragement and buy-in. Information on compliance is then put into the public domain, made transparent and open to scrutiny.

- Whilst it increased from 7.9 sqkm in 2006 to 9.5 sqkm in 2007, the night noise level contour ($57\text{dB}_{\text{LAEQ},8\text{h}}$), remains well below the target level of 14.6 sqkm. We are confident that we can maintain the night noise contour at or below the 1996 target limit until at least 2016, and this will be subject to ongoing review.
- The noisiest aircraft, those attracting a QC (explained at para 3.11) of 8 or 16, are no longer permitted to operate at night except for those that suffer an unavoidable delay, and only if a punitive surcharge of £10,000 or £5,000 (subject to the QC of the aircraft) is paid. The proceeds from this

surcharge are transferred in full to the Airport's Community Fund. This measure has been enforced since January 2007 and has been so effective that there was only one such aircraft in 2008.

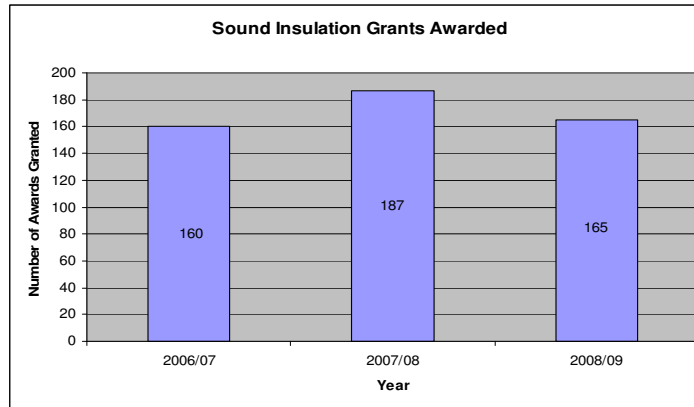
- The target that by 2012 all aircraft operations at night will comply with the requirements of the most stringent international noise standard, "Chapter 4", is on target to be achieved. We estimate that the proportion of aircraft meeting this standard is now 64%. This is a significant improvement since the publication of the Master Plan due to the phase out of older aircraft types including the Boeing 737-200 series. Progress towards meeting this commitment will be assessed annually and the results made available to the Airport's ICC. Following discussions with the airlines, this target was identified as demanding, challenging, and quantifiable but achievable.
- The more stringent night noise penalty scheme limits and the Night Noise Surcharge have been introduced, effectively reducing each noise limit by 2 decibels. In 2008 22 penalties were issued, raising a total of £22,050, which was transferred in full to the Airport's Community Fund.
- Development of the novel night noise index in partnership with Leicestershire County Council which measures the number of times that people are subject to loud noise events (90dB SEL) has been completed and the resulting metric is now calculated and reported annually. We will continue to work with the Council to make the best use of this novel measure for monitoring and target setting.
- Raising the minimum altitude limit at which departing aircraft are permitted to deviate from their Noise Preferential Route from 3,000 feet to 5,000 feet was implemented in January 2007. This helps to minimise the number of people overflown as aircraft climb. Compliance is excellent and is now running at 98%.
- The CDA target for arriving aircraft of 80% has been surpassed. In 2008 average CDA compliance was 84%, compared with 75% in 2006, and performance continues to improve. Certificates have been presented at the Pilots' Liaison Group (hosted by the Airport) to those airlines that have achieved at least 80% CDA and at least 95% track compliance. We are having ongoing discussions with the Pilots Liaison Group with a view to raising this target to 90%.
- PR-Nav, a computer based system for improving the accuracy of aircraft track keeping, was trialled in 2006 and 2007; the results were mixed. Whilst aircraft were able to fly very accurately and all achieved CDA, combining aircraft operating PR-Nav with complicated air traffic patterns, particularly during busy periods, proved very difficult and to date the Airport has not been able to adopt this technology.
- Additional limits on training by civil jet aircraft have been implemented. The intrusiveness of training operations was a strong theme arising from

consultation on the Draft Master Plan. Since the extension of the restrictions the number of complaints associated with training flights has fallen by 85%.

- The enhanced SIGS as described above has been fully implemented. The Scheme's offer is the most generous of any UK airport and take-up has been strong. (Figure 2). By the end of 2008, 502 dwellings had received Sound Insulation Grants.
- Extensive independent investigation of the potential for using landscaping bunds to ameliorate noise has been undertaken. This concluded that the benefits would be modest whilst large engineering works would be required. Discussions with Castle Donington Parish Council confirmed that the size of potential developments was undesirable and this has not therefore been taken forward.
- During 2007/08 the Airport installed a new permanent noise monitor in Castle Donington which brings the number of permanent monitors to five in addition to the portable noise monitor which, upon request, is available to be positioned in local communities to monitor the levels of noise in specific locations, for example if requested following a cluster of complaints.
- During 2007/08 further improvements have been made to the Webtrak system in response to feedback, making it easier to use. The Airport was the first in Europe to introduce this web-based system. It allows anyone with access to the internet the ability to replay aircraft movements within 30 miles of the Airport and up to 15,000 feet.

For each aircraft that has arrived at or departed from EMA it provides detailed information including aircraft type, airline, altitude and track.

- All the Master Plan proposals relating to transparency, monitoring and availability of information on noise and other matters have been or are being implemented.

Figure 2 - Graph showing Sound Insulation Grants awarded by year

In conclusion, although we are very pleased with progress, we are not complacent. Certification to the ISO14001 standard in 2002 and subsequent recertification, confirmed that EMA was in the vanguard of environmental awareness and sustainability including the control and mitigation of aircraft noise. Assessment of our performance in implementing what we voluntarily committed to confirms that this status has been consolidated.

It is our intention to update these Master Plan targets and aims and report back on progress on them in future Noise Action Plans.

3.10 Designation

The UK Government has the power to “designate” airports under Sections 78-80 of the Civil Aviation Act. Currently the only airports that are designated are the London airports, Heathrow, Gatwick and Stansted. At the London airports designation involves Central Government setting a limit on the number of night flights (between 23:30 and 06:00) that can occur, imposing a night noise quota and other noise mitigation measures, such as a noise penalty scheme.

Designation does not involve the cessation of night flights: it merely gives the Government control over the numbers occurring. Given the Government policy on the growth of EMA contained within the ATWP, which is outlined later in this draft Plan, it is reasonable to assume that were the Airport to be designated, then the limits would be set in such a way so as to allow the provisions of the White Paper to be met with no local control.

The Government has rejected all calls to designate EMA. The most recent decision was in May this year in response to a request from North West Leicestershire District Council, part of which is quoted below:

“Accordingly having considered all the above factors, Ministers have decided that it would not be appropriate to designate East Midlands Airport for noise control purposes under Section 78 of the Civil Aviation Act 1982. Ministers have noted that the view of the Independent Consultative Committee that they regard the existing arrangements to be operating satisfactorily. They have

also noted that the preparation of a noise action plan for East Midlands Airport would enable local noise issues to be fully discussed with the local community and stakeholders and mutual solutions sought. The guidance requires local consultation on the draft plan to begin by 1 July and further stipulates that the period of consultation should last 16 weeks. The final draft plan is required to be submitted to the Secretary of State for Transport in November for consideration for adoption under the Directive. Ministers have indicated that should the need arise that they would be prepared to review the designation issue following completion of the action plan.”

“The guidance requires local consultation on the draft NAP to begin by 1 July and further stipulates that the period of consultation should last for 16 weeks. The final draft NAP is required to be submitted to the Secretary of State for Transport in November for consideration and adoption under the Directive. Ministers have indicated that should the need arise, they would be prepared to review the designation issue following completion of the Action Plan.”

In reaching a decision, Ministers had particular regard to the following factors:

- information that the Council had submitted in support of the request;
- information from the Airport relating to its existing and future noise mitigation measures;
- a letter from the Independent Consultative Committee advising that the interests of their communities will be best served by current arrangements and the Committee does not support the request for designation; and
- the recent guidance issued by Defra to airport operators on preparation of noise action plans under the Environmental Noise Directive.

Designation would mean that noise controls and possibly limits on the number of aircraft allowed to fly at night would be determined by Government. The position of the Airport is that controls on managing the noise impact are best set at the local level by the Airport in consultation with Local Authorities, our Independent Consultative Committee, local communities and other similar bodies, rather than being imposed by Government. In our opinion this delivers greater effectiveness and responsiveness.

3.11 Noise Quota Count System

The Quota Count (QC) system operates at the 3 designated London airports, Heathrow, Gatwick and Stansted. This system has also been adopted at a number of regional airports.

The QC system is used to rate each aircraft movement and, by imposing a maximum quota, to limit operations at night. The same quota total can be obtained by a smaller number of movements by noisier aircraft or a larger number of movements by quieter aircraft. We are strongly of the view that the introduction of this approach would be inappropriate at EMA. The noise

contour limit that we have introduced (as set out at section 3) has a very similar effect to a QC system in that if aircraft operators wish to increase the number of flights then, once the limit set by the contour is reached, they can only do this by substituting quieter aircraft - exactly the same process as would occur with the QC System.

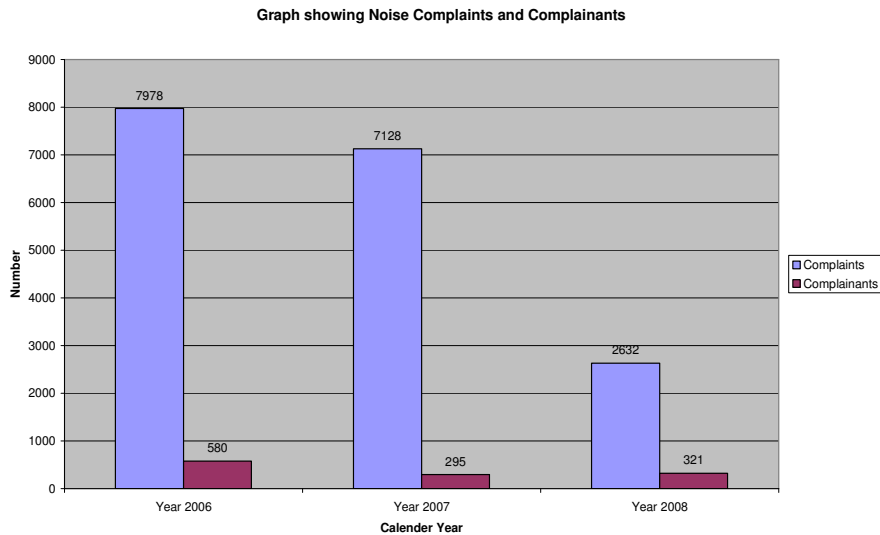
In our view noise contours are a better and more direct measurement and a more appropriate objective, as they directly measure noise impact whereas the QC system simply uses numbers of aircraft movements by type of aircraft as a proxy for noise impact. Noise contours are also “visible”, or at least easier to visualise, much easier to administer and can be used to set other limits, such as those providing the operational framework for our Sound Insulation Grant Scheme.

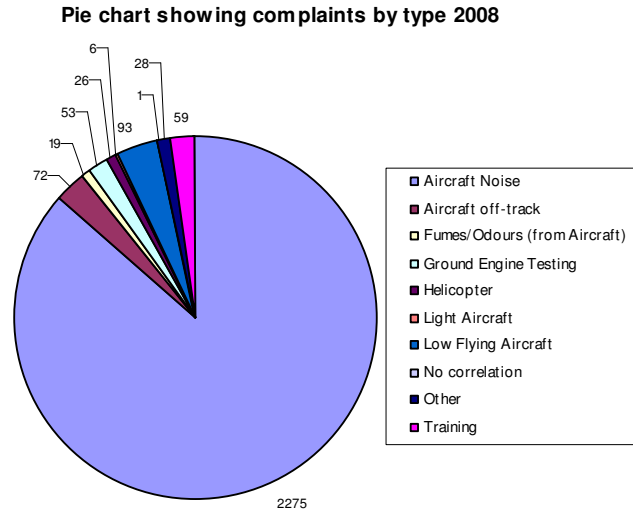
It should be noted that at the three designated London airports, the QC system is used only as a means of achieving the airports’ environmental noise objective, which is expressed as a noise contour.

3.12 Noise Complaints

EMA takes noise complaints very seriously. The complaint handling system is independently audited as part of the ISO14001 certification. The Environment team aim to respond to all complaints within ten working days of receipt of the complaint. During 2008 we received 2,632 complaints from 321 complainants and 2275 of these were about aircraft noise. (See Figure 3). Night noise complaints outnumbered daytime complaints by 2 to 1. Between 2006 and 2008 the number of complaints fell sharply by 67% and the number of people complaining fell by 43%. In 2008 70% of our complaints were from 11 complainants. A fall in the number of complaints however does not of course necessarily indicate a commensurate fall in the level of concern about the local noise climate.

Figure 3 – Noise complaint graphs





(Note: Complaints are logged according to the description given by the complainant.)

3.13 Limit Values in Place

The Airport is not subject to aircraft movement limits. The control measures are enforced by the Airport, not by designation or local planning agreements. The key limit values in place are:

- the commitment to ensure that for the foreseeable future (up to 2016) the night noise contour will not exceed the area covered by the 1996 night noise contour (specifically 57dB_{LAEQ,8h}), an area of 14.6 sq. km;
- as previously described, noise contours also provide the framework for determining eligibility for our grants towards sound insulation;
- noise levels provide the operational framework for setting and monitoring compliance with noise penalty limits of 83 dB(A), 87dB(A) and 92 dB(A), which are imposed on night time departures by aircraft with a maximum take-off weight of less than 100 tonnes, greater than 100 but less than 300 tonnes or greater than 300 tonnes respectively.;
- the noisiest aircraft movements (those attracting a QC of 8 or 16) are not permitted to plan to operate at night;
- altitude limits help to provide the operational framework for Continuous Descent Approach; and
- training (by civil jet aircraft) is prohibited at night and on Saturdays, Sundays and Public Holidays and in any event restricted to those airlines that undertake regular operations from EMA.

3.14 Assessing the Significance of Noise Exposure

In order to determine the acceptability, or otherwise of noise exposure the Government's Guidance considers the key source of information to be the A T W P. With respect to daytime noise the White Paper considers that, on the basis of social research, a continuous equivalent noise level of 57 decibels (57 dB $L_{Aeq,16h}$) should be taken as the 'onset of significant community annoyance'.

The Guidance considers that further information on interpreting noise levels can be obtained from a Government Planning Policy Guidance document, PPG24 on Planning and Noise. This document was originally developed to assist those determining planning applications for new developments and the noise levels it contains and the associated guidance are set out, in full, below at Figure 4.

Figure 4 - Guidelines for new development planning applications

		Noise Level	Guidance
A	day	<57	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.
	night	<48	
B	day	57-66	Noise should be taken into account when determining planning application and, where appropriate, conditions imposed to ensure an adequate level of protection against noise.
	night	48-57	
C	day	66-72	Planning permission should not normally be granted. Where it is considered that 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.
	night	57-66	
D	day	>72	Planning permission should normally be refused.
	night	>66	

Source: Planning Policy Guidance Note PPG24

Attention is drawn to categories B and C. In category B - between 48 to 57 decibels by night and/or 57 to 66 daytime - noise should be taken into account when determining planning applications and, where appropriate, conditions imposed. In category C - between 57 and 66 decibels (LEQ) by night and/or 66 to 72 daytime – the advice from PPG 24 is that planning permission for new development should not normally be granted. Where it is considered, however, that permission should be given, for example, because there are no alternative quieter sites available, conditions should be imposed. In other words, in the case of new development, as opposed to existing development, noise levels of up to 66 decibels by night can be approved in certain circumstances subject to conditions.

Paragraph 8 of Annex 3 of PPG24 further qualifies this advice for the case of major new noise sensitive development:

“ 8. Recommended noise exposure categories for new dwellings exposed to aircraft noise are given in Annex 1, but 60 Leq dB(A) should be regarded as a desirable upper limit for major new noise sensitive development. Where replacement schools, clinics, and other community facilities are needed to serve the existing population in high noise areas, expert consideration of sound insulation measures will be necessary. When determining applications to replace schools and build new ones in such areas, local planning authorities should have regard to the likely pattern of aircraft movements at the aerodrome in question which could cause noise exposure during normal school hours/days to be significantly higher or lower than shown in average noise contours.”

With regard to night noise PPG24 also accords significance to regular exposure at night to noise levels in excess of 82 dB_{lmax} (equivalent to 90 dB(A)SEL). This value is based on the results of field research undertaken for the Government in the 1990s, which found that at noise levels of less than 90 dB(A)SEL there was no discernible effect on levels of sleep disturbance.

These values are well established and well founded and have for many years guided the Airport in its consideration of its annual noise contours, the more recent Strategic Noise Maps and in devising programmes of mitigation, such as the Sound Insulation Grant Scheme.

The Airport is mindful that there is a great deal of research in this area and that in particular the recent study into attitudes to aircraft noise merits special consideration.

3.15 Attitudes to Noise from Aviation Sources in England (ANASE)

3.15.1 Background

A major study of attitudes to aircraft noise in the UK was carried out in 1982 and reported in 1985. This was known as the “ANIS” study (United Kingdom Aircraft Noise Index Study). The results informed current policy that the daytime index for measuring people’s exposure to aircraft noise should be the LAEQ index measured over 16 hours, and that the “onset of significant annoyance” occurred around 57LAEQ.

Given the passage of time the Government came to the view that a further major study was desirable and following initial work in 2001 the ANASE research was largely undertaken in 2005 and 2006. As it proved to be more challenging and complex than was first envisaged the study was only published in late 2007.

3.15.2 Aims and Main Findings

The study had three principal aims:

- to reassess attitudes to aircraft noise in England;
- to reassess their correlation with the LEQ noise index; and
- to examine using preference surveys and econometric analysis the “hypothetical willingness of people to pay” to reduce their exposure to aircraft noise.

The main conclusion of the study was that people seemed to be more annoyed by aircraft noise at all levels than was the case in 1985: in other words, their willingness to tolerate aircraft noise had declined. Whereas the onset of annoyance during the day is commonly taken to correspond to a continuous noise level (LEQ) of 57 decibels – this was the level at which 10% of people had, based on the ANIS study, considered themselves to be at least moderately annoyed – the ANASE study found that at least 40% of people considered that they were at least “very annoyed” at this noise level. Other findings suggested that:

- there was no higher level at which noise became a serious problem, rather it was found that even relatively low noise levels caused some level of annoyance and that this increased with increasing noise;
- although there was a strong correlation between LEQ and reported annoyance, the LEQ metric tended to place greater emphasis on the contribution to annoyance from the smaller numbers of operations by noisier aircraft than was merited by the results;
- in general people placed greater emphasis on the number of aircraft movements that they are exposed to, rather than their absolute noise level; and
- there was a strong statistical association between reduced tolerance to aircraft noise and working from home, income levels and socio-economic group. People in professional and managerial occupations who enjoyed higher incomes tended to indicate a higher propensity to be annoyed.

3.15.3 Assessment and Conclusion

The methodology of the study has been subject to considerable technical criticism. The peer reviewers of the study for example concluded that *“the results of the ANASE study are inconclusive and therefore should be treated with caution.”* They also concluded that *“the reviewers would counsel against using results and conclusions from ANASE in the development of Government policy.”*

Other research indicates that in statistical terms only about a quarter of the inter-individual variance in annoyance can be attributed to the average level of noise exposure, however defined. This reflects the very large differences between individual reactions to the same amount of noise. Another important factor is the extent to which the person affected considers that their concerns are being taken seriously by the Airport involved, which suggests that if they consider they have some control or influence then they are less likely to be annoyed.

The Airport welcomes the ANASE study; it is a substantial and stimulating body of work. We are however conscious of the results of peer review. We therefore look to Government to clarify the weight which should be given to the research findings and how they might contribute to the development of policy. The study notes that people are more likely to find noise at night disturbing; however, we are disappointed that night noise has not been addressed in greater detail.

We are also surprised that the study appears to make no reference to Lden and does not therefore provide any assistance in the interpretation of this new metric.

The Airport is mindful that when recently considering the results of ANASE the Government considered that there was *“no evidence in ANASE for increasing or reducing the 57 dBA limit”, and that the research ‘did not give us the robust figures on which it would be safe to change policy’*. (Decision on adding capacity at Heathrow Airport 2008; DfT)

4 THE STRATEGIC NOISE MAPS

4.1 Introduction

The END requires member states to produce noise exposure information in the form of Strategic Noise Maps utilising common noise indicators (referred to as EU indices). Five such noise maps based on 2006 data have been prepared by Defra: the Lden and Lnight and the supplementary indicators Lday and Levening. In addition a “traditional UK” noise map based on indicator LAEQ,16h has been prepared. All five maps are shown in Appendix 1A.

These indicators, which are also called indices or metrics, are based on the LAEQ indicator commonly used in the UK to assess the impact of aircraft noise; however, the END requires the maps to represent annual average values. This contrasts with the longstanding UK practice of producing aircraft noise contours for the average summer’s day (16hr. 07.00-23.00 LEQ), using air traffic data during the summer months from mid June to mid September, which are typically busier than average.

Lnight, Lday and Levening are all the same index except for the period during the day or night which they refer to. As its notation implies, Lnight refers to the LAEQ over the period 23.00 to 07.00 local time, on an average annual basis; Lday is the same index except the specified time period is 07.00 to 19.00; and Levening refers to 19.00 to 23.00 (see Glossary of Technical Terms, Appendix 7).

The Lden indicator is an average of the Lnight, Lday and Levening indicators with additional weightings. In specific terms it is the LAEQ over the period 00.00 to 24.00 based on annual average values, but with the evening values (19.00-23.00) weighted by the addition of 5dB (A), and the night values (23.00-07.00) weighted by the addition of 10dB(A).

4.2 Summary of the results of the Strategic Noise Mapping

4.2.1 Areas Covered

Taking the Lden first, it will be seen that the lowest contour, the 55 decibel contour, extends to the village of Costock some 11 kilometres to the east of the Airport, and some 6 kilometres to the west. It includes most of East Leake, Sutton Bonington, all of Wilson, the northern half of Melbourne, the southern half of Castle Donington and most of Kegworth.

The 60 decibel contour extends to West Leake, about 6 kilometres to the east of the Airport, and about 3 kilometres to the west. It includes most of Sutton Bonington, the southern half of Kegworth, and the southern part of Castle Donington.

The only residential areas affected by the 65 decibel contour are the southern part of Kegworth and the most southerly tip of Castle Donington. The 70 and 75 decibel contours are very close together and mainly include parts of the aprons and the runway.

Turning to the Lnight contour, the lowest contour, the 48 decibel, extends to the northern segment of East Leake to the east of the Airport, includes roughly half of Sutton Bonington, most of Kegworth and all of Isley Walton and Wilson. It extends to Kings Newton and Melbourne in the west, and cuts through Castle Donington to the north.

The 54 decibel contour extends to the northern part of Sutton Bonington and the southern part of Kegworth to the east of the Airport; and includes part of the southern part of Castle Donington. The only “urban” area affected by the 60 decibel contour is the southern fringes of the village of Kegworth. Again the two highest contours are very close together and mainly include parts of the aprons and runway.

In summary, all the strategic noise maps tend to show a similar characteristic shape which expands or contracts depending on the index used and the decibel value. Perhaps the most significant point is that the Lden tends to produce larger contours than the other indices. This is because the noise which occurs in the evening (19.00-23.00) and at night (23.00-07.00), attracts an artificial weighting of 5 dB and 10dB added respectively before being combined to produce Lden.

It is worth emphasising that the Draft NAP considered those areas impacted by significant levels of aircraft noise and the Guidance advises that in this context “significant” means “those places affected by noise from the Airport operations as shown by the results of noise mapping.”

The noise mapping exercise described above shows this is confined primarily to those villages closest to the Airport, Kegworth, East Leake and parts of Castle Donington, Melbourne and Sutton Bonington. This is not surprising; it confirms the findings from the more comprehensive analysis undertaken for the Master Plan based on 23 noise maps, and subsequent work undertaken by the Airport, including the annual noise contours which have been calculated and published for many years.

It is clear that the noise contours on the maps produced as a result of the noise mapping exercise are the same shape as those which have been produced and published by the airport for many years. Crucially the noise maps do not identify areas of noise exposure which have not already been considered in formulating the current noise amelioration programme.

4.3 Population and Dwelling Exposure Statistics

Defra has made available population and dwelling exposure statistics for the five Strategic Noise Maps for EMA (Appendix 3A). This confirms that the map based on the Lden index is the most extensive: there were 4,350 dwellings

and an estimated 10,500 people exposed to noise levels equal to or greater than 55 decibels (Lden). By way of comparison, at the slightly lower noise level of 54 decibels or greater, the Lnight and Lday contours show an exposure of 950 dwellings and 2,100 people and 1,000 dwellings and 2,200 people.

Defra has also made available population exposure information for a selected group of UK airports including EMA (Appendix 3B). This data is not directly comparable with the population and dwelling exposure statistics given above due to the use of a different noise index but it is useful for making comparisons between airports.

4.4 Interpretation

The Guidance does not provide specific advice on the policy implications to be drawn at this stage from the noise levels represented by the strategic noise maps and there is no substantive Government guidance or policy advice that relates to the new measure of Lden. It should be noted, however, that Defra state on its website that the “noise mapping exercise will provide a sound basis to help future policy making/strategies to tackle noise”.

The Guidance, however, does require special provisions for those dwellings exposed to the highest levels of aircraft noise (greater than 69dB L_{Aeq16h}). As set out in the ATWP. It is important to note that there are no dwellings impacted to this extent as a result of aircraft noise from operations at EMA.

As set out in Section 3.09 the Guidance then directs airports to information in the Air Transport White Paper and the document PPG24 Planning and Noise.

4.5 Assessment

Having studied the Strategic Noise Maps produced for the NAP exercise, we have concluded that they do not identify significantly different areas of noise impact from the noise contour maps which informed the development of our current mitigation programme through the Master Plan process, or highlight issues which have not already been considered, in the development of our current noise controls including our noise mitigation programme.

Dwellings exposed to (LEQ) noise levels of 55 decibels by night or greater are already eligible for Sound Insulation Grants under the terms of the Airport’s Sound Insulation Grant Scheme which is, by UK standards, a very generous threshold.

This analysis confirms the rationale behind our focus on providing Sound Insulation Grants to the relatively small number of dwellings close to the Airport which experience higher levels of noise at night.

4.6 Financial Aspects

Although there is no overall budget to implement our noise control measures, the costs are substantial and vary enormously in scale depending on the measures involved. The replacement of existing aircraft fleets with quieter models, for example, falls to the airlines and can involve hundreds of millions of pounds of new investment but, of course, the benefits do not accrue solely to EMA. The business case for such massive investments is more likely to stack up if the airlines anticipate a period of sustained growth in the numbers of passengers and throughput of freight.

The Airport has made a considerable investment in the installation of new technology such as noise and track-monitoring equipment, radar recording and display systems such as Webtrak. By way of illustration since the publication of the Master Plan, our investment in Sound Insulation Grants alone has been some £1.5m. Surcharges and noise penalties are met by the relevant airlines and these monies are transferred to assist community projects through our Independent Community Fund. Since the publication of the Master Plan, the Airport's Community Fund has invested more than £270,000 in local good causes. On-going costs, borne by the Airport, associated with maintaining ISO14001 are not inconsiderable and measures such as restrictions on training aircraft also have a cost in terms of income foregone. The overall affordability of all of the measures put in place to manage the environmental impact of the Airport's operations is a key consideration for EMA.

5 LOOKING AHEAD

5.1 Longer-Term Strategy

5.1.1 The Future of Air Transport White Paper (ATWP)

The ATWP set out a strategic framework for the development of airport capacity in the UK up to 2030, including growth forecasts for each airport.

Having taken account of a range of factors including environmental matters, climate change, economic development and employment issues, it concluded that air travel is essential to the UK's economy and to our continuing prosperity. It sought to encourage the development of regional airports, including EMA to support the growth of the East Midlands' economy and to provide passengers with greater choice by offering more direct flights from the regions. It also supported growth at regional airports to relieve congestion at overcrowded South-East airports by making better use of existing regional capacity; and to reduce the need for long-distance surface travel to and from airports by improving more local services.

The ATWP supported the expansion of passenger operations at EMA. It also supported the expansion of air freight operations, given the particular importance to the national and regional economies of EMA as a national centre for these operations. It forecast that by 2030, EMA could attract between 12 and 14 million passengers per annum and could be handling 2.5 million tonnes of freight a year.

The ATWP recognised the need for any expansion of the Airport to be accompanied by stringent controls on night noise which it said should build on those applying at the time of the White Paper.

5.2 Further Developments

With the encouragement of Government, the Airport prepared its Master Plan in 2006 with a view to establishing how the broad strategy for EMA set out in the White Paper could be implemented. The primary focus of the Master Plan is the period up to 2016. By that date, the ATWP expected that the Airport could attract 9.22 million passengers per year and handle 1,207,000 tonnes of cargo (Figure 6), and experience 110,900 air transport passenger and cargo movements, 31% of these occurring at night.

Figure 5 - Master Plan passenger forecasts to 2016

Passengers (million passengers per annum)			
	2004 (Actual)	2010	2016
Domestic	0.81	0.85	0.90
Short-haul Scheduled	2.01	3.86	5.21
Short-haul Charter	1.55	1.85	2.21
Long-haul Scheduled	0.00	0.05	0.15
Long-haul Charter	0.01	0.32	0.75
Total	4.38	6.93	9.22

Figure 6 - Master Plan freight forecasts to 2016

Cargo Tonnes (Thousands)		
2004 (Actual)	2010	2016
279	723	1207

Source: East Midlands Airport Master Plan 2006

Since the publication of the ATWP the Department of Transport has undertaken a significant programme of work to ensure that the long-term strategy remains up-to-date, including “The Future of Air Transport Progress Report” in 2006; the consultation on “Adding Capacity at Heathrow Airport” and the updated UK Air Passenger Demand and CO₂ Forecasts in 2007 and 2009. The latter reduces the 2030 forecast from EMA from 14mppa to 11mppa, but no revision to freight or mail forecasts is made (DfT UK Air Passenger Demand and Co₂ Forecasts January 2009).

The increasing severity of the worldwide recession is affecting both passenger and freight throughput adversely. How long this continues remains to be seen, but under-performance of the UK industry, for at least into 2010, seems likely.

The key issue then will be how the industry recovers and whether there is a strong “bounce back” to or towards original forecasts or whether the underlying dynamic of the forecasts has changed.

With the economic outlook more uncertain than for many years, now is not the time to seek to amend long-term forecasts or actions, but significant underperformance compared to the ATWP forecasts appears inevitable, certainly in the short term. All other things being equal, lower passenger and cargo throughput at EMA should result in slightly lower noise levels, although this may not be pro rata as one of the impacts of the recession may be to delay the introduction of newer aircraft which are generally quieter as well as more fuel efficient.

EMA has sought planning permission for a 190 metre extension to the runway. The development, when complete, will extend the runway from its existing length of 2,893m to 3,083m. When departing from the current runway the largest aircraft cannot depart at their maximum take-off weight. The extension of the runway that is proposed would allow these aircraft to depart at slightly heavier take-off weights and therefore the extension on the runway would support the Airport's objective of securing and maintaining commercially attractive long haul services. Whilst it is not forecast to result in any additional flights the increased take off weights that would be facilitated by the proposed extension to the runway are significant and would ensure that the Airport is more able to satisfy the requirements of a number of key customers.

The proportion of departing aircraft that are projected to benefit from the extended runway is just 2.8% of all departing aircraft. These largest aircraft could depart at greater weights and would be slightly noisier overall as a result. We consider however that the noise effect of the proposed runway extension will not be significant, a conclusion agreed by the District Council's noise expert.

5.3 Actions which the Airport operator intends to take in the next five years

EMA engages proactively with local stakeholders which has helped to develop a comprehensive, locally-determined, responsive and robust system of noise controls.. It is engineered to respond to changing circumstances and the results of the noise mapping carried out in compliance with the END do not highlight any significant differences in terms of areas affected by significant aircraft noise.

The Airport's view is that the new Noise Maps do not suggest the need for any changes to the existing, comprehensive range of measures including our Sound Insulation Grant Scheme. In time, further incremental improvements are likely to be possible and the Airport will consider, in an open and constructive way, further amendments or additions to the measures which are currently enforced. In doing so, the guiding objectives set out in the Guidance will form the context for considering any new or amended control measures, particularly the requirement that *"Any new noise control measure that is considered for inclusion as part of the Action Plan must take into account the cost of implementation and the likely benefit to be accrued."*

We monitor our performance regularly and are therefore in a good position to learn from experience and be in a position to fine-tune our initiatives and make our targets more demanding and appropriate to changing circumstances, as recent performance demonstrates.

Nevertheless, the Airport is conscious that in striking an appropriate balance between the requirements of different stakeholders, people living in the environs of the Airport continue to be exposed to significant levels of noise and that, despite relatively generous mitigation measures, this impact is undesirable.

Whilst the Airport does not currently propose to introduce substantial amendments to the current noise mitigation programme as a result of the noise mapping exercise, we remain receptive to new ideas, and fully accept the need to seek continuous improvement and to bear down on all aspects of aircraft noise.

We believe that openness is very important and the Airport's activities are monitored regularly with the Independent Consultative Committee and its two Sub Committees, each of which meet three times a year and the Leicestershire County Council Joint Working Group which includes a wide range of Local Authority Stakeholders.

Any noise operating restrictions introduced in the future will comply with the "balanced approach", following the principles set out by the International Civil Aviation Organisation (ICAO) (see section 3.5). The existing noise operating restrictions at the Airport comply with this approach.

We remain committed to maintaining ISO14001 certification with the independent monitoring of all of our targets and commitments that this entails.

6. **PUBLIC CONSULTATION**

6.1 **General Approach to Consultation**

The Airport has sought to undertake the consultation in an inclusive and professional manner that complies with the Guidance published by the Department for Environment Food and Rural Affairs (Defra), and as reported to the Airport's Independent Consultative Committee.

Section 4 of the Guidance sets out the process which must be followed when consulting the public. The main points are reproduced below.

"In preparing and revising Action Plans Airport Operators must ensure that:-

- *the public is consulted about proposals for Action Plans;*
- *the public is given early and effective opportunities to participate in the preparation and review of the Action Plans;*
- *the results of the public participation are taken into account;*
- *the public is informed of the decisions taken; and*
- *reasonable time frames are provided allowing sufficient time for each stage of public participation.*

Where a Consultative Committee exists, Airport Operators should engage with it in the development of the Draft Noise Action Plan. Airport operators should also liaise with the local planning authority and other local authorities affected by the airport, as well as NATS and airline operators. Operators may also wish to consult local amenity groups with whom they would normally engage over airport issues....."

The Guidance also notes that "the extent and nature of the consultation should be proportionate to the actions being proposed". In addition the airport operator "should examine and reflect upon the comments received as a result of the consultation process and complete the Draft Noise Action Plan including a description of the comments received during the consultation process and a reasoned justification for the response to the issues raised. The Airport operator shall include with the Draft Noise Action Plan a schedule of all those individuals and organisations who responded to the consultation (unless they indicated that they did not wish to appear in such a schedule)."

As described below this approach has been followed by EMA. The consultation period extended to 17 weeks ending on 21 October 2009. We wish to put on record our thanks to all those who responded and attended the Outreach Events, and members of our Independent Consultative Committee (ICC), who have been involved in all stages of the Draft Noise Action Plan.

6.1.1 Consultees

The following bodies were formally consulted by the Airport on the Draft NAP:-

- members of the Airport's ICC including the 3 City Councils of Leicester, Derby and Nottingham and the 3 County Councils of Nottinghamshire, Derbyshire and Leicestershire;
- the 3 District Councils of North West Leicestershire, South Derbyshire and Rushcliffe Borough;
- Parish and Town Councils situated close to the Airport;
- the five MPs with constituencies close to EMA and all 5 East Midlands MEPs;
- the Airport Joint Working Group (an ad-hoc group of local authorities chaired by Leicestershire County Council; and
- on-site businesses.

In total, 155 organisations and individuals were formally consulted by the Airport including MPs and MEPs (see Appendix 4). All received a letter from Penny Coates, the then Managing Director providing details of the consultation exercise, including the consultation period and the time, date and location of four Outreach Events to be held in local communities. The letter requested that comments on the Draft NAP be forwarded to the Airport by letter, fax or e-mail.

ICC members and MPs and MEPs received a paper copy of the Draft NAP; other consultees were referred to the Airport's website where the Draft NAP could be accessed electronically.

Our approach ensured that we consulted a wide range of interests including local Town and Parish Councils; County, City and District Councils; national bodies such as the National Trust and National Air Traffic Services; regional bodies such as the East Midland Development Agency and East Midlands Regional Assembly; local amenity groups; Chambers of Commerce; the airlines; on-site businesses; MPs and MEPs; and most importantly, people living locally.

In addition, the EMA Strategic Development Forum (SDF) considered the topic on two occasions; the first before the start of the consultation process and the second at a specially convened meeting to discuss the Draft NAP. The SDF was formed in 1998 to provide feedback to the Airport on strategic issues. Membership includes both private and public sectors including Chambers of Commerce, the CBI, emda, EMRA, the local planning authority and GO-EM.

We also put the Draft NAP on the agenda of one of our quarterly tenants' liaison meetings and received useful feedback.

6.1.2 Community Outreach Events

Given the local focus of this exercise as determined by the areas delineated by the strategic noise maps, we were particularly keen to ensure that local communities had every opportunity to be aware of the Draft Plan and comment on it. We therefore arranged 4 Community Outreach events which took place on the following dates:-

- Diseworth Heritage Centre, 14 July;
- Melbourne, Bill Shone Leisure Centre, 21 July;
- Castle Donington Village Hall, 25 August; and
- Kegworth Parish Council Rooms, 29 September.

Melbourne is situated in South Derbyshire, the other three Outreach venues being within North West Leicestershire.

Airport representatives were present to assist at these events. Immediately afterwards short action notes were prepared listing the main issues raised and other relevant information.

6.1.3 Media/Advertising

The front page of the Airport's website contained a direct link to the Draft NAP. A press release was issued drawing attention to the forthcoming public consultation exercise. This received prominent coverage in several daily and local newspapers and on local radio. Some newspapers ran a series of articles on the Draft NAP and the consultation process. Posters were placed at key locations drawing attention to the Community Outreach Events. These were supplemented by adverts placed in several local publications. The Draft NAP process was also highlighted in our community newsletter 'The Flyer', which is distributed to over 45,000 homes.

6.2 Results of the Consultation Process

6.2.1 Overview

There was a good response to the Draft NAP. We received 77 responses from a wide range of interests including County Councils, Parish Councils, amenity groups, the National Trust, employers, local residents and MPs.

Most respondents were private individuals. We received 11 responses from Melbourne residents, 6 from Castle Donington, 3 from Kegworth and 2 from Diseworth residents. The largest numbers of responses however, was from residents living outside the NAP Area in places such as Repton, Shardlow, Beeston, Keyham, and Swadlincote.

In addition, 65 people engaged with Airport staff at the 4 Outreach Events. The list of respondents is provided in Appendix 6 as required by the Guidance.

The major concern expressed by consultees was night noise, followed a long way behind by training flights.

Many were of the view that the existing night noise controls are inadequate and the Airport should do more to control night noise. Some considered that the Draft NAP should put forward a wide range of new night noise control initiatives, irrespective of what the mapping exercise shows or the fact that EMA's noise controls were reviewed and updated as recently as 2006. It would seem that the NAP process has raised expectations, perhaps unrealistically. Many respondents are therefore disappointed that the Airport, having had regard to the tests required by the Guidance, did not put forward new initiatives in the Draft NAP.

A number of suggestions were made which were also made at the time of the consultation on the Master Plan. Those which were not accepted previously by the Airport have been reconsidered but generally the Airport has not changed its mind on such matters. Also some suggestions are made which do not fall within the purview of the Airport.

Finally, some respondents considered that the night noise levels should be reduced from current levels. These suggestions however were generally made without having regard to the National strategy set out in the ATWP and as firmed up in the Master Plan. The Guidance required the Draft NAP to take account of both documents.

6.3 Approach to the Analysis

We approached the analysis by examining every response received and considering the implications for the Draft NAP. This examination provided the basic information which helped us prepare this report and key sections of the next iteration of the NAP and the accompanying summary report.

In addition we took account of the points raised in the feedback notes prepared immediately after the Outreach Events.

We have sought to take a professional, considered, responsive and even-handed approach to processing the information. We have tried to be inclusive by taking on board suggestions if at all possible. However, we have not made fundamental changes to our existing noise controls or as a result of the consultation. The main additions and changes to the Draft NAP are listed below in Section 6.6. Undoubtedly the NAP will be improved as a result of these changes.

Some points put to us relate to joint working and future liaison, or are expressions of agreement. In general these did not require changes to the NAP, although topics to be progressed outside the NAP process are now stated in the updated NAP.

Other points challenge the framework provided by the Guidance and/or the ATWP. These have been noted but generally have not led to changes to the NAP.

In order to assist discussion the many detailed comments/suggestions contained in the responses to the consultation, plus feedback from the Outreach Events, have been distilled into the 25 themes or topics considered below.

The responses included many individual points. In a few cases a unique point was made by an individual respondent but more commonly the same or a similar point was made in varying ways by several or more respondents. In fact what was striking was the similarity of many of the responses. The themes summarise the vast majority of points made by respondents. Although it has not been possible to include every response, in our view the list below provides an accurate overview of the vast majority of comments received on the Draft NAP and how the Airport addressed them.

An indication is given of those aspects which the Airport accepted and incorporated into the Draft Submission NAP, those which we did not accept, and those which do not seem to have any implications for changing the Draft NAP. The reasons supporting the Airport's approach are also indicated, as is the strength of response on the various issues including those raised at the Outreach Events.

Most comments were received on the Airport's 1996 night noise contour and related issues. Other "high scoring" topics were the Sound Insulation Grant Scheme (SIGS), the Strategic Noise Mapping exercise, the need for an independent body, freight payload, format and readability of the Draft NAP, the target that by 2012 all aircraft operating at night will comply with "Chapter 4", and the need for a long-term strategy. After these there were 10 topics which received several responses each, followed in turn by 4 topics which generated a few responses each.

In general we have tended to refer to responses from organisations rather than named individuals in the discussion on the topics below.

6.4 Main Themes

6.4.1 1996 Night Noise Contour and Related Issues

Some 44 respondents including visitors to the Outreach Events commented on this topic or related issues. Many expressed concerns about the Airport's key night noise control limit which aims to ensure that night noise, as measured by the 57 decibel night noise contour, remains at or below the 1996 level (14.6km²), until at least 2016. On the other hand a few supportive comments have been made such as that by Environmental Protection UK and UPS; the latter welcomes the reduction of 65% of the 1996 limit as of 2008, thus suggesting that there is therefore no need for designation of the Airport.

Criticism on this limit has taken many forms: *“Why was the 1996 contour chosen as the benchmark date when clearly the noise impact is so much lower now than then?” “Surely this choice is arbitrary and cannot be justified by technical assessment?” “Is there a rational basis for the choice of 1996?” “The reasons for the choice of 1996 should be stated and justified.” “Why is there no assessment of whether or not the 1996 limit was acceptable then or will be in 2016?” “What happens if the 1996 limit is reached and what happens after 2016?” “People living close to the Airport are not benefiting from aircraft technological improvements and quieter aircraft as any ‘benefit’ is being used to ‘fuel’ an ever-increasing number of flights.” “EMA should not be allowed to expand from current night noise levels.” “EMA should commit to a long-term target to reduce night noise rather than increase it from current levels.” “By taking the 57 decibel contour limit the Airport is misrepresenting PPG 24 and the Defra Guidance, and is being deliberately misleading. The 48 decibel night noise contour should be the benchmark, not 57 decibels.”*

The first point we wish to stress is that the choice of the 1996 footprint was not arbitrary but was the outcome of considered technical assessment. It represented a balance between seeking to protect the local noise climate and providing sufficient “head room” to meet the forecasts set out in the Air Transport White Paper. We came to the conclusion that, despite our best endeavours to control noise at source and the use of modern operational measures, we could not meet the ATWP forecasts within a 57 decibel night noise contour of less than 14.6km² by 2016.

The reason why the noise climate has improved since 1996 is mainly because of improvements in noise amelioration – particularly the introduction of quieter aircraft – which has been encouraged by EMA.

Even with our best endeavours, EMA cannot make its contribution to national air transport policy on the basis of the current noise footprint. Adopting a long term noise contour target has given the airlines confidence that they can make long term investment decisions in quieter aircraft types. The approach that has been suggested would restrict our growth severely and would reduce the benefit of these investments in quieter aircraft and other noise control and mitigation measures. This is unacceptable to the Airport and is, in our opinion, inconsistent with the ATWP.

We therefore do not accept that the Airport should not be allowed to expand from current night noise levels. Such an approach would severely restrict the growth of the Airport. It would not in our view be in the national or regional economic interest or consistent with the ATWP.

As noted above, all aspects of the NAP including the long-term night noise contour target will remain subject to review in light of any changes in circumstances including when the Master Plan is reviewed and rolled-forward, when from time to time new official forecasts of passenger and freight growth are published and when the full impact of our developing controls, such as those to do with Chapter 4 aircraft and operational procedures, become

evident. The present night noise footprint remains well below the target level of 14.6km² and is not forecast to grow substantially in the near future.

We have considered a number of comments that were put to us which suggested that the noise contour target should be based on a lower night noise contour than 57 decibels, perhaps using 48 or 55 decibels. The Airport sees merit in adopting a target based on the 55 decibel night noise contour, particularly as this would align with the noise contour which is taken account of (along with other factors), in determining eligibility for our basic Sound Insulation Grant Scheme. This issue will be examined again in future reviews of the NAP,

The NAP has been amended to reflect the discussion above particularly the justification for the 1996 footprint and the developing agenda to be considered when our noise controls are reviewed and rolled forward in 2011.

6.4.2 Sound Insulation Grant Scheme (SIGS)

We received 25 comments expressing a wide range of views. These included: “SIGS should be seen as a last resort, not a first line of control”; the noise footprint which determines eligibility for SIGS is out of date and should be reviewed; the noise limits should be lower and based on single noise events; the Plan should list all types of buildings eligible for this type of assistance; people should not have to sleep with their bedroom windows shut in summer; any payment of SIGS should be conditional on the work being done and not used as a compensatory payment; houses with dormer windows located outside the pertinent noise contour but close to the Airport should be eligible for grant assistance as such houses are more vulnerable to noise penetration; the scheme should be extended to places of worship, libraries and village halls; the scheme should be extended to the Woodlands and Spinney Hill estates in Melbourne and Kings Newton and consideration should be given to Aston-on-Trent and Weston-on-Trent.

We agree that SIGS should not be seen as the first line of control. The Airport is required to follow the legal framework known as the “balanced approach” which is described in Section 3.5 headed “Regulatory Framework”. Reducing noise at source, land-use planning and operational practices are all required to be pursued before mitigation measures are considered. Also, we agree that single noise events should be taken account of in determining eligibility for SIGS and, as stated in the Draft NAP Section 3.8, that is why we incorporate houses in the 90dB(A)SEL contour limit of the noisiest aircraft in frequent use at night, into the basic SIGS. Finally, we agree that grants should be implemented rather than being used as a compensatory payment.

The EMA SIGS is the most generous of any UK airport. The Airport has carefully considered the offer and operation of the SIGS, the evidence offered by the Strategic Noise Maps, and the comments and suggestions made on this topic arising from the consultation process. In our view a convincing case to extend and/or enhance the scheme has not been made. We therefore do

not propose to extend or enhance the scheme at this stage. We also now list the types of building eligible for grant assistance in this report.

6.4.3 Strategic Noise Maps and Related Issues

We received 16 comments on the noise mapping exercise. The main comment was that the maps are based on “averages” and therefore understate noise particularly that from individual aircraft. One respondent has commented *“They are pretty pictures, but pretty useless at conveying information.”*

Leicestershire County Council have requested that the NAP refer to the future application of the novel night noise measure - which the Council and the Airport have developed in partnership - for monitoring and target-setting purposes. This is agreed and has been incorporated into this report.

In our opinion, noise maps are an appropriate way to show geographically the incidence of noise. Also the Strategic Noise Maps have been balanced using empirical data. The contours therefore show “average” noise and single events. In any event, as stated in the Draft NAP, all major airports within Europe are required to use identical noise mapping in the NAP process; this is one of the fundamental points that underpins the entire exercise.

6.4.4 Independent Body to set Targets/Commitments and Monitor Performance

14 respondents suggested that noise policy and controls should be set by an independent body; others suggest that monitoring and compliance should also be undertaken independently. These suggestions are invariably made without any reference to the 6 monthly independent audits required by ISO14001 certification undertaken by the Airport.

Mark Todd MP put “flesh on the bones” of this suggestion and indicated how it might be achieved. He suggested that although he was not a strong believer in designation an alternative model could involve the development of the ICC from a consultative model along a genuinely independent path, independently resourced, with clear accountability links to local communities and others and empowered to challenge the Airport and force action.

The Guidance however makes it clear that the competent authority for drawing up NAPs is the relevant airport operator. The establishment of an independent authority to set airport noise policy and controls and oversee compliance and monitoring could require legislation and would presumably have to apply to all airports. A new quasi-autonomous non-governmental organisation (QUANGO) could have to be established which would have financial implications.

As this suggestion is not within the purview of the Airport it is not included in this Submission Draft NAP.

6.4.5 Reference to Noise Control Targets being set by Local Agreement

13 respondents suggested that the reference in the Draft NAP to EMA's noise control targets being determined by "local agreement" is misleading as it implies that they have been agreed by local residents and/or their political representatives. Comments have been made along the lines that "local residents are powerless" and the Airport has "no obligation on it to take into account the opinion of local communities."

The term "local agreement" used in the Draft NAP was intended to mean determined by EMA having regard to the results of consultation on the Master Plan and consideration by the ICC. This point has now been made explicit in the text of the NAP.

6.4.6 Freighter Payload

13 respondents commented along the lines that the efficiency of the freight flying operations should be improved and that the Airport should take measures to ensure that this happens.

This comment seems to be based on information which indicates that the load factors on freight aircraft have declined, that is, on average they are flying with lower payloads and more vacant space than would have been expected. Of course to some extent this may be a temporary phenomenon due to the current recession.

The Airport will continue to discuss this matter with the operators and the ICC and use its influence to address this issue. However, payload factors are primarily a matter for the industry. The operators have a great incentive to operate efficiently and to optimise their operations on a global basis, namely, the competitiveness of the international marketplace for these services. It would be inappropriate in our opinion for EMA to attempt to unilaterally regulate this practice.

6.4.7 Format and Readability of the Draft NAP

Although the Draft NAP is described as "*a solid document*" by Environmental Protection UK, some 13 consultees considered that it was not suitable for the purposes of public consultation as it was too long and technical and not therefore readily comprehensible to the general public.

Perhaps this point is most strongly expressed by Kegworth Parish Council who say that it "*is almost incomprehensible to a layman and it is the Parish Council's suggestion that it is rewritten and a new one published that allows for proper consultation.*" The Parish Council continues "*the plan is written in industry jargon*" and "*as it stands, it is best incompetent and irresponsible and, at worst, a devious attempt to confuse the surrounding communities with its jargon so that they find it impossible to give a sensible critique of it*".

We accept that the subject is technical. We also agree that the document is somewhat repetitive, not least due to the format and headings which are required by the END, which often requires similar information to be repeated albeit in a slightly different way. We can also appreciate that someone, having taken the time to read the document, could be disappointed to find that the Airport is not putting forward any new initiatives over and above those listed in the Master Plan.

On the other hand we tried to make the document readable. A Technical Glossary was included and we tried to minimise the use of technical terms. Although we accept that it is repetitive for the reader we considered it is better that something is repeated rather than being left out. It is true that we did not prepare an “easy-read” version for public consultation, but there are dangers in over-simplification. Also the Airport came to the considered view that no additional measures were required having carefully considered the tests required by the Guidance. Finally, the scale of response and the length and content of some responses – one of which extends to 18 pages – suggests that many have been able to read the document and respond to it.

We therefore do not agree that the document should be rewritten and re-issued for another round of consultation. In our view it is very unlikely that another round of consultation would uncover any significant points which have not already been raised. We tried to improve further the readability of the document prepared for submission to the Secretary of State. This version however is longer than the Consultation Draft NAP as it includes additional information requested by respondents. We hope that readers find our summary report which only extends to the required 10 pages more accessible.

6.4.8 Target that by 2012 all Aircraft Scheduled to operate at Night will comply with the Requirements of Chapter 4

13 responses were received on this topic. They fell into several groups. First, it was suggested mainly by local residents and other respondents that the target should be achieved earlier, at least by January 2012. Second, it was suggested that information be provided on the rate of improvement from the Master Plan base and on what mechanisms are in place to ensure that compliance will be achieved. Third, the view was expressed that progress so far suggests that the fleet replacement target is unlikely to be achieved. Finally, industry representatives saw the target as too ambitious and considered that it does not represent a “balanced approach”.

On the latter point, instead of phasing out Chapter 3 aircraft, it is suggested that more effective operational measures be adopted such as “greater use of CDA's, and advanced avionics (Flight Management Systems coupled with GPS accuracy to develop energy efficient RNAV Standard Instrument departures and arrivals), which could allow airspace designers more flexibility and creativity in developing noise mitigation procedures.” This has been suggested by the Association of International Courier and Express Services and UPS.

We have provided additional information as suggested above and it is our intention that we publish regular reports setting out our progress against this target. In our view our target remains very demanding but achievable. We have reconsidered it in the light of the comments received but on balance we have concluded that it should remain as it is. The suggestions on advanced avionics have been noted. We consider that this is best progressed on an industry-wide basis; however we will keep abreast of new developments and ensure that we continue to be at the forefront in the adoption of leading-edge technology.

6.4.9 Long-Term Strategy

10 respondents commented that the Airport did not have a long-term strategy to control noise and therefore the Draft NAP was deficient in this respect. The Airport does not agree with this comment. EMA has a long-term strategy which is set out in the Master Plan and has been confirmed by the NAP process. The strategy runs from 2006 to 2016. There are several years for the strategy still to run. We have made these points more explicit.

The position is clearly explained in the Master Plan, Appendix 2 page 18, which reads *“However, given the degree of uncertainty that remains regarding the aircraft types that may be operating beyond 2016; the operational and technological advances that may also have a material effect upon how aircraft are operated; and the potential changes that would arise should a second runway be required, impacts beyond 2016 are best considered in the quinquennial reviews of the Master Plan.”*

6.4.10 More Information should be provided on Surcharges

10 comments were received on the Noise Penalty Scheme and the Night Noise Environmental Surcharge. In general more information was requested on these schemes such as do these schemes only apply to cargo operations? Are the schemes proving to be effective and can more information be provided on charges etc? We were also requested to provide information on surcharges levied by other airports.

Some information on surcharges was included in the Consultation Draft NAP. We have expanded this along the lines suggested. We have not provided information on other airports as we believe that this would not be within the scope of the NAP process.

Castle Donington Parish Council wants an immediate and significant increase in the Night Noise Environmental surcharge whereas industry representatives on the other hand are concerned about changes that could lead to an unreasonable and unsustainable increase in charges. In the circumstances, the Draft NAP does not propose any changes.

6.4.11 Provisions Envisaged for Evaluating the Implementation and the Results of the Action Plan

Several comments were received along the lines that the Airport has not made provision for evaluating the implementation of the Draft NAP, or provided quantified outcomes and it is, therefore, deficient in these important respects.

Again we do not agree with these comments. When our Master Plan was prepared in 2006 we placed great importance on establishing arrangements for monitoring, evaluation and the tracking of progress on implementation. We committed to producing a biannual Master Plan Monitoring and Implementation Report. The first edition covered all the Master Plan topics including a chapter on “Noise and Training Flights”. One of the strengths of our Draft NAP is that this up-to-date work has been available to inform the Draft NAP. It is set out in summary form in section 3.9 of the Draft NAP headed “Targets and Assessment”.

A related comment is that the Draft NAP did not indicate the impact of its proposals. In fact the impact of our proposals is implicit in our strategy. Para 3.6 of the Draft NAP states *“We are committed, as set out in the Master Plan, to ensure that night noise (measured as the 57 decibel night noise contour) remains at or below the 1996 level (14.6km²), until at least 2016, even with the further substantial growth that is forecast and this will only be achieved by continued investment by the cargo companies in newer quieter aircraft.”* So the maximum impact will be the area delineated by this contour at 2016.

Information on the impact in terms of number of dwellings affected is provided in this report.

It is true that the Airport has not assessed the impact of any new proposals put forward by the Draft NAP, as would be required by the END. However, the Airport, having carefully considered the evidence and applied the tests set out in the Guidance published by Defra, came to the view, as stated in the Draft NAP, that no additional measures were necessary.

We have however included the 2016 night noise contour map as provided in our Master Plan Annex 12, (Appendix 1A).

6.4.12 Complaints

Several comments were made on complaints and these focused on two issues. First, the decline in the number of complaints on noise should not, it is suggested, be interpreted by the Airport as indicating a decline in the level of concern about noise disturbance experienced by local residents and others. Second, it is suggested that information on complaints be provided on a day/night basis.

On the former, it was not the Airport’s intention to imply that falling numbers of complaints indicated a decline in the level of concern. To make the position

clear we have therefore included a comment in section 3.12 to make it clear that the Airport accepts that a falling number of complaints does not necessarily suggest a commensurate fall in concern about the local noise climate.

We accept the second point, and the information has been provided.

6.4.13 Further Restrictions on Training Flights to avoid Villages

The several suggestions received on this topic were mainly to do with avoiding overflying specific settlements, such as Aston on Trent and Gotham, by training flights. Some are accompanied by detailed supporting technical evidence. We will progress these issues outside the NAP process and are currently trialling a tighter circuit. It is also suggested that a programme of training flights be approved with the Local Authority. We do not consider that this is an appropriate matter for the Local Authorities.

6.4.14 Replace “Targets” with “Commitments”

Several responses were received suggesting that the Airport’s approach “to encourage other airlines to replace their existing fleets with quieter models” is “too soft” and therefore needs to be more prescriptive and instructional by being expressed in the form of a “commitment”. Similar comments were made in regard to other targets such as those to do with Chapter 4 aircraft and CDA.

The Airport’s general approach is to do what works best as this will bring the greatest benefit to residents. We have found from experience that the most effective way to proceed on these matters is to have regular meetings with the airlines and pilots, provide support and encouragement and obtain buy-in. Information on compliance is then put into the public domain, made transparent and open to scrutiny. The replacement of aircraft fleets by the airlines, however, is not of course within the direct control of the Airport. Encouragement and a more nuanced approach can often achieve better results than a more formal and official approach. This would certainly seem to be the case given recent successes as discussed in the Draft NAP.

We therefore have not accepted this suggestion.

6.4.15 Noise Preferential Routes

Some general comments were received on this topic from several respondents. The main point made was that the Airport should reduce the width of its Departure Routes.

This point is not accepted. EMA has the most stringent requirements of any UK airport. Other UK airports operate routes extending to 1,500 metres either side of the runway whereas at EMA the routes extend to just 1,250 metres either side of the runway. In our opinion any further tightening would be inappropriate.

As pointed out in the Draft NAP even operating under such exacting limits compliance is excellent and is now running at 98%. This shows what can be achieved by working closely with the pilots and obtaining goodwill and buy-in.

6.4.16 Continuous Descent Approach (CDA)

Again several respondents commented on this topic. We received requests to include further information on CDA. The information requested includes why was a target of 80% chosen? How is it being achieved? Is it possible to have a steeper descent than 3%? Also, some have commented that CDA is primarily a fuel saving device and any noise benefits which arise will exclusively benefit areas outside those shown on the strategic noise maps. The 80% target emerged as a demanding, challenging, quantifiable but achievable target following discussions with the pilots. As stated in the Draft NAP it has now been surpassed, reaching 84% in 2008 compared with 75% in 2006. This has been achieved by working closely with the pilots, supporting them with a view to consolidating continuous, incremental improvement. Information on progress is placed in the public domain where it can be subject to the rigours of public scrutiny.

We are having ongoing discussions with the pilots with a view to increasing the target, perhaps to 90%.

The issue of the angle at which aircraft approach has previously been considered at an industry level. We believe that the approach at EMA is appropriate but we will closely monitor development of policy in this area.

Further information on CDA on the lines indicated above has been included.

6.4.17 Safeguarding

The reference to the Airport “working with the local planning authority to ensure that no further noise sensitive development is allowed in areas that might be affected by aircraft noise in future” was misinterpreted by several respondents. A few even consider that this represents a bid by the Airport to take on the responsibilities of local planning authorities.

The Airport’s statutory role as formal consultee on safeguarding and related measures is now outlined in Section 3.8. We hope this clarifies any misunderstandings.

6.4.18 Quota Count (QC) System should be adopted by EMA

Several comments were received on this topic. In addition to the proposal that EMA adopt the Quota Count (QC) system, it was also suggested that our assessment of the QC system in the Draft NAP is partial and unbalanced.

The Airport believes that the noise contour target and the quota count system are analogous in that both are affected by the number of movements and the noise of each individual operation. Given that both measures behave in a

similar way we do not consider it necessary for the Airport to adopt the QC system. Our preferred approach of targeting, measuring and reporting a night noise contour has a number of important advantages, not least that it is more easily presented by showing a geographical display.

6.4.19 Community Fund

We received several comments on the Community Fund. Some suggest that it is perhaps rather “tokenistic” and does not address the real issue of night noise. Others, like Derbyshire County Council, were more supportive. The Council would like to see a substantial increase in funding to offset the reduction in income arising from surcharges and penalties. Leicestershire County Council suggested that the Community Fund could be more directly used in noise mitigation and prevention.

We consider that the focus of the Community Fund should continue to be on assisting community projects. There are other appropriate measures in place to control and mitigate noise. We will consider enhancing the Fund once again when the Master Plan is rolled forward but a substantial increase in funding will be difficult in the present economic climate.

6.4.20 Designation

Several respondents raised this topic. Views were expressed for and against designation; members of the public tend to express support for designation whereas the freight integrators are against. It has been the policy of successive governments that the issue of noise controls is best addressed locally and the Airport believes that this is appropriate. Any decision to designate the Airport would be taken by the Secretary of State and therefore we consider that, strictly, the comments received are outside the scope of the NAP process.

6.4.21 The Consultation could have been better publicised

6 comments were received criticising our consultation arrangements: some respondents stated that they did not know about the consultation because they do not read local papers; there were insufficient copies of the document available; and/or insufficient emphasis was given to the Draft NAP at one or more of the Outreach Events.

Compared with the Master Plan, our consultation arrangements were less high profile, but in our view more than met the requirements of the Guidance. Whilst we accept that no consultation meets everyone’s aspirations, we are pleased with the scale of response, their detail and the number and variety of points raised, as well as the feedback from the Outreach Events.

6.4.22 Research and Local Studies

The Airport has been asked to recommend to Defra that the Government undertakes further research into noise. In addition, it is suggested that the Airport undertakes local surveys into noise.

We consider that the relevant Government Departments are in the best position to come to an informed view on what research they should sponsor. The Airport has an open mind about local surveys and will consider this outside the NAP process in conjunction with the ICC. It would seem sensible that any local surveys into noise should be related to the Master Plan and NAP monitoring and implementation processes.

6.4.23 Attitudes to Noise from Aviation Sources in England (ANASE)

Four respondents commented on ANASE. One point made was that our assessment of ANASE in the Draft NAP is partial mainly because it takes account of the views of the “peer reviewers”. We note this point but do not accept it. Taking account of the views of peer reviewers and indeed the Government’s related decision on Heathrow as outlined in the Draft NAP, are essential considerations in coming to a considered and balanced assessment.

6.4.24 Tranquillity

This topic was raised by the National Trust and Environmental Protection UK. We agree that tranquillity is an important consideration especially in the context of the Regional Spatial Strategy and Calke Abbey. The National Trust has asked to meet the Airport and discuss options. We agree; and will continue to progress this matter as part of the ongoing review and assessment of our noise amelioration programme.

6.4.25 Monitoring

A few respondents raised this topic. With regard to the suggestion in the Draft NAP that it would be sensible to bring the Master Plan and the NAP processes together, Melbourne Civic Society comment *“We object most strongly to this proposal. The two plans have quite different status, objectives and audience, and we believe they must remain separate documents”*.

We remain of the view that there should be one comprehensive over-arching approach for the reasons set out in the Draft NAP.

6.5 Feedback from Outreach Events

10 visitors attended the Diseworth event and made general comments and enquiries. The Melbourne event was attended by 24 visitors; the key issues raised were night noise levels; the need for a permanent noise monitor in Melbourne; suggestions for aircraft to depart in a block rather than every few hours; and Sound Insulation Grants. 20 visitors attended the Castle Donington event. Key issues raised were night noise levels; the need for

designation; restriction on number of night flights and time of departure; and odours. 11 visitors attended the Kegworth event and the key issues raised were Sound Insulation Grants and vortex damage.

6.6 Changes to the Draft NAP

The following principal additions and changes were made to the Draft NAP following the consultation exercise:-

- 1996 night noise contour: *background explained and justified;*
- 2016 night noise contour: *map included;*
- novel noise measure jointly developed with Leicestershire County Council: *stated in Plan that work will proceed to apply measure for monitoring purposes and target-setting;*
- local surveys into noise: *will be considered outside the NAP process;*
- developing agenda: *reference made to outline issues which NAP process suggests should be reviewed in 2011 when new forecasts are available;*
- SIGS: *explicitly stated that the scheme has been reconsidered but not changed and justification set out;*
- categories of buildings eligible for SIGS assistance: *list provided;*
- strategic noise maps: *made clear that all 5 maps shown in Appendix 1A are Defra maps;*
- chapter 4 target: *supporting information expanded;*
- local agreement: *term explained;*
- whole document: *edited to improve readability;*
- advanced avionics: *the need to keep abreast of developments outside NAP process is stated;*
- MPs and MEPs: *included in list of consultees;*
- EMA's noise control strategy: *made clear that this is long-term, up-to-date and will be reviewed and rolled forward to 2021 in 2011;*
- noise penalty scheme and night noise environmental surcharge: *more information provided particularly on explaining what the schemes are, whether they only apply to cargo operations, how effective we think they are, and the scale of charging;*

- complaints: *information provided by day/night split and comment included which accepts that falling number of complaints does not necessarily reflect a decline in concern about the local noise environment, or words to that effect;*
- training flights: *stated that any suggestions to fine-tune routeing will be pursued outside NAP process;*
- CDA: *more information provided particularly on how the 80% target was chosen and how progress is being achieved etc;*
- Airport's statutory role as formal consultee on safeguarding: *explained in text;*
- tranquillity issues involving Calke Abbey: *stated that this will be progressed outside NAP process;*
- runway extension approval referred: *reference made to this and assessment;*
- page 7, Section 2.3, delete "*Membership of both bodies is listed in Appendices 2A and 2B*" and substitute "*Membership of the ICC is given in Appendix 2*".
- page 25, figure 4 should read "*should **not** be regarded as a desirable level.*";
- page 28, second sentence change to "*Five such noise maps...*" and delete "*by EMA.*";
- page 29 , fifth paragraph, insert "*Draft*" before "*NAP*"; and
- page 32, last sentence change to "*110,900*".

6.7 Conclusion

We consulted widely on the Draft NAP. There was a good response and we received 77 responses. In addition, 65 people engaged with Airport staff at 4 Outreach Events. Many suggestions and comments have been put to us. We have carefully considered these in a professional, considered, responsive and even-handed manner. We have been able to group the points made into 25 topics.

We have accepted many comments and suggestions put to us which have been included in this report.

7 ACCEPTABILITY OF NOISE IMPACT AT EMA

7.1 The Test

The Guidance sets out the crucial test which formed the basis of what the Draft NAP had to consider in order to establish whether or not further action is required. It specifies that airport operators will primarily have two pieces of information available to them for action planning. These are:-

- the current noise impact of their operations as shown by the results of the noise mapping; and the current noise control measures they have in place.

The Action Plan process requires consideration to be given regarding the following:-

- is the current noise impact acceptable? If the answer is 'Yes', then it can be assumed that the current noise control measures are adequate. If the answer is 'No' then further action is required and this action will be proposed as part of the Action Plan under the terms of the Regulations.

7.2 Conclusion

Having taken account of all relevant factors, including the findings of the ATWP, subsequent developments, PPG 24, the Attitudes to Noise from Aviation Sources in England Study (ANASE), the Guidance including the Strategic Noise Mapping exercise, the results of public consultation, and our Master Plan Monitoring and Implementation Report which was published in July 2009, we conclude that EMA has stringent noise controls in place, that these controls are responsive to forecast growth in traffic levels and remain fit for purpose.

EMA's noise controls were established as a result of an ongoing process of engagement and listening and the current controls came in after a comprehensive public consultation exercise followed by careful consideration of all responses. They are being implemented successfully, monitored and fine-tuned to respond to changing circumstances. They seek to provide a balance between the benefits provided by the legitimate operation of aircraft at the Airport and the environmental impact which results. The Guidance endorses this approach noting that noise ...*"is an inevitable consequence of a mature and vibrant society. People enjoy and benefit from air transport and this benefit manifests itself in terms of business, leisure, the movement of goods and employment. When managing the environmental noise that arises from aircraft, a balance needs to be struck."*

We therefore conclude that the current noise impact at EMA is acceptable. This is the same conclusion we reached when we prepared the Consultation Draft NAP. As stated in our Consultation Draft Plan, it is clear that the noise

contours on the maps produced as a result of the Strategic Noise Mapping exercise are the same shape as those which have been produced and published by the Airport for many years; they do not identify areas of noise exposure which have not already been considered in formulating the current noise amelioration programme.

Whilst the Airport does not currently propose to introduce amendments to the current noise mitigation programme as a result of the Strategic Noise Mapping exercise and public consultation, we remain receptive to new ideas and fully accept the need to seek continuous improvement and to bear down on all aspects of aircraft noise. Many points and suggestions have been made to us during the public consultation exercise which, whilst not being directly related to the Strategic Noise Mapping exercise as required by the NAP process, are nevertheless of great interest to the Airport and will be pursued outside the NAP process. The Airport sees particular merit in a target based on the 55 decibel night noise contour and this will be considered in future reviews of the Noise Action Plan.

8 MONITORING AND REVIEW

There is a continuing obligation on airport operators to review the NAP every 5 years, or sooner where a major development occurs.

That will mean two review processes – (i) the Master Plan and (ii) the NAP – which will cover different time frames. Although the two processes have a different status – the former is discretionary and the latter statutory – we consider that it would be sensible to bring them together in one comprehensive over-arching approach.

In any event, as part of our Master Plan commitments we said that we would produce an annual Community and Environment report, which we have done, and every two years a more detailed Monitoring and Implementation report. The latter report was delayed, not least due to difficulties in trying to set the context against the rapid changes in the economy and the aviation market in the last year. However it was completed in July and is available on the Airport website.

In addition, as the current noise amelioration programme has been confirmed by the NAP process, it would seem sensible to expand the Annual Community and Environment Report and the bi-annual Monitoring and Implementation Report to take in the NAP as well as the Master Plan and this we propose to do.

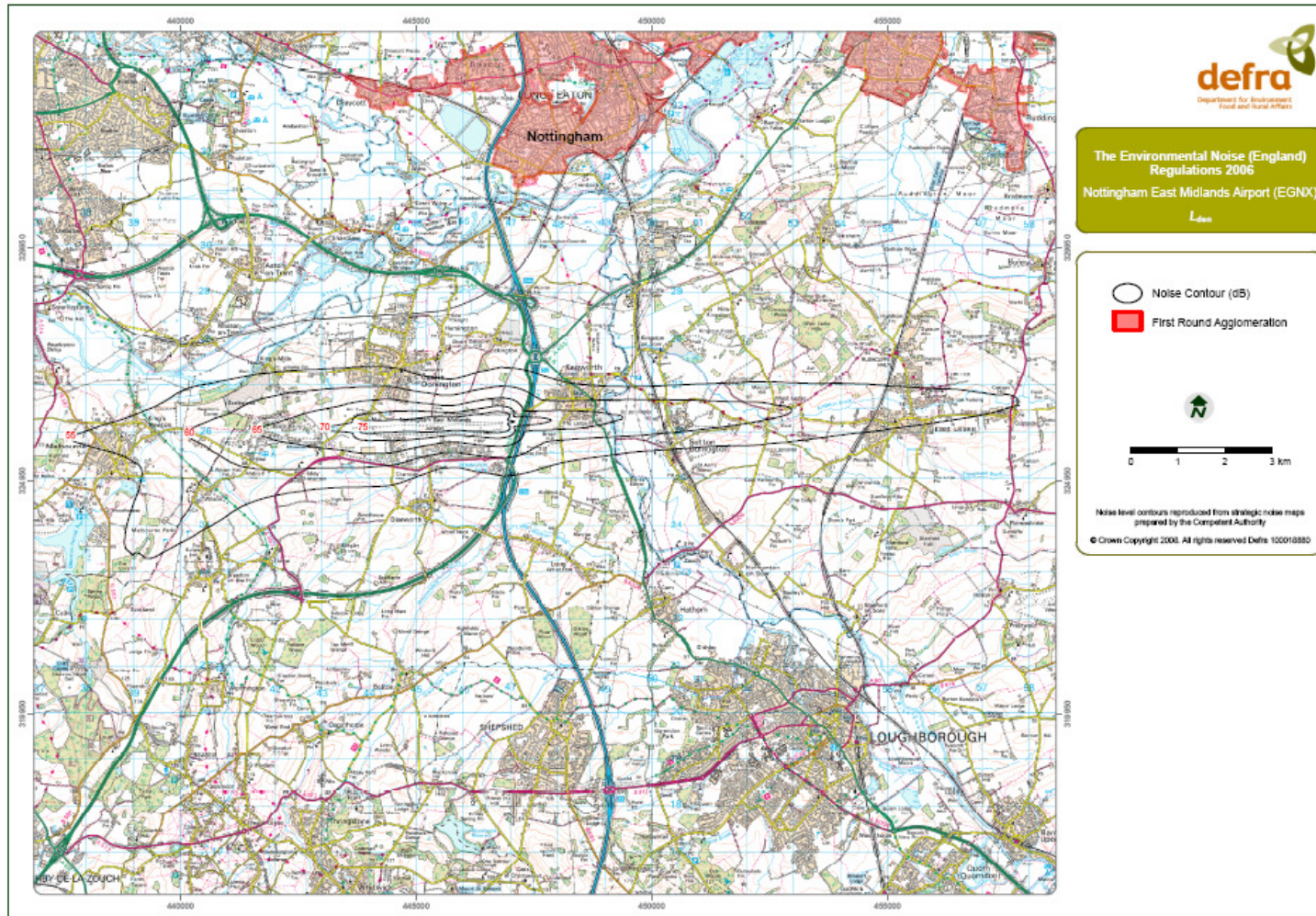
As already stated, we remain committed to retaining ISO14001 Certification, with the independent audit of our operations that this entails.

8.1 Adoption

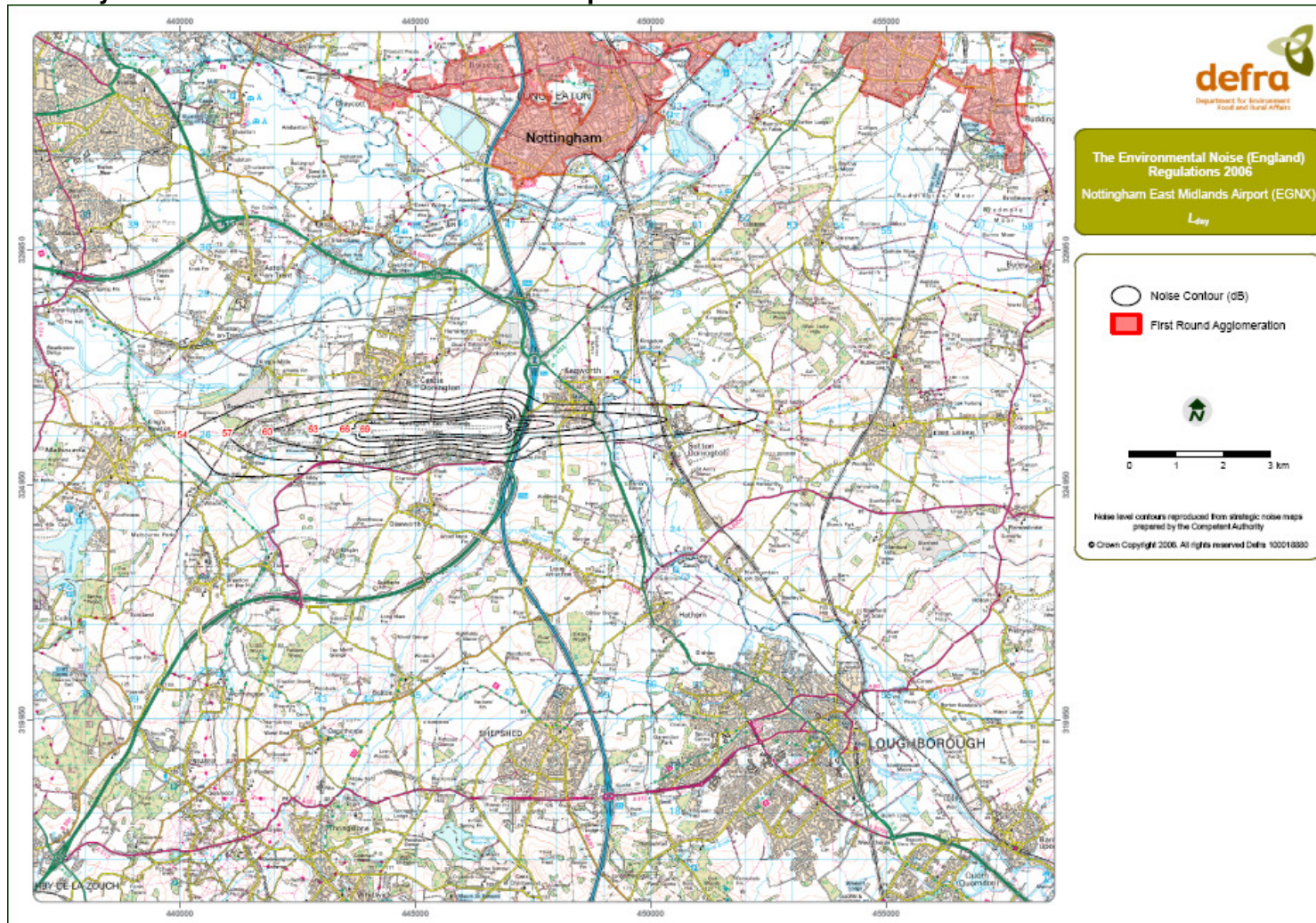
Once adopted by the Secretary of State, there is a requirement that the NAP must be published by the Airport as a public document in an electronic format, within 28 days. The summary document will be made available in both electronic and paper formats. The additional report on Consultation Process and Responses which EMA has prepared will be made available in electronic format.

APPENDIX 1A

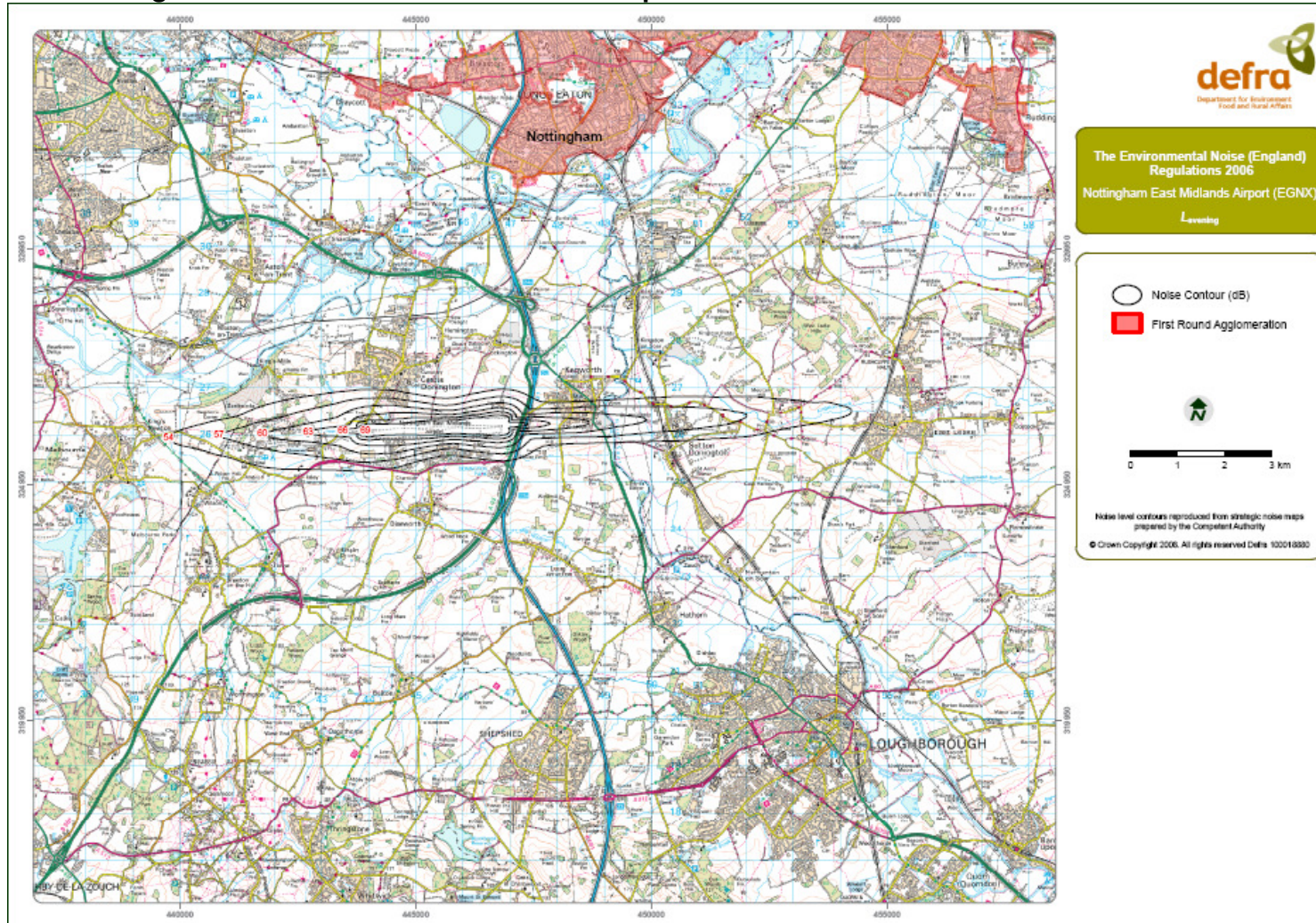
Map 1: 2006 Lden (day, evening, night) noise contours for East Midlands Airport



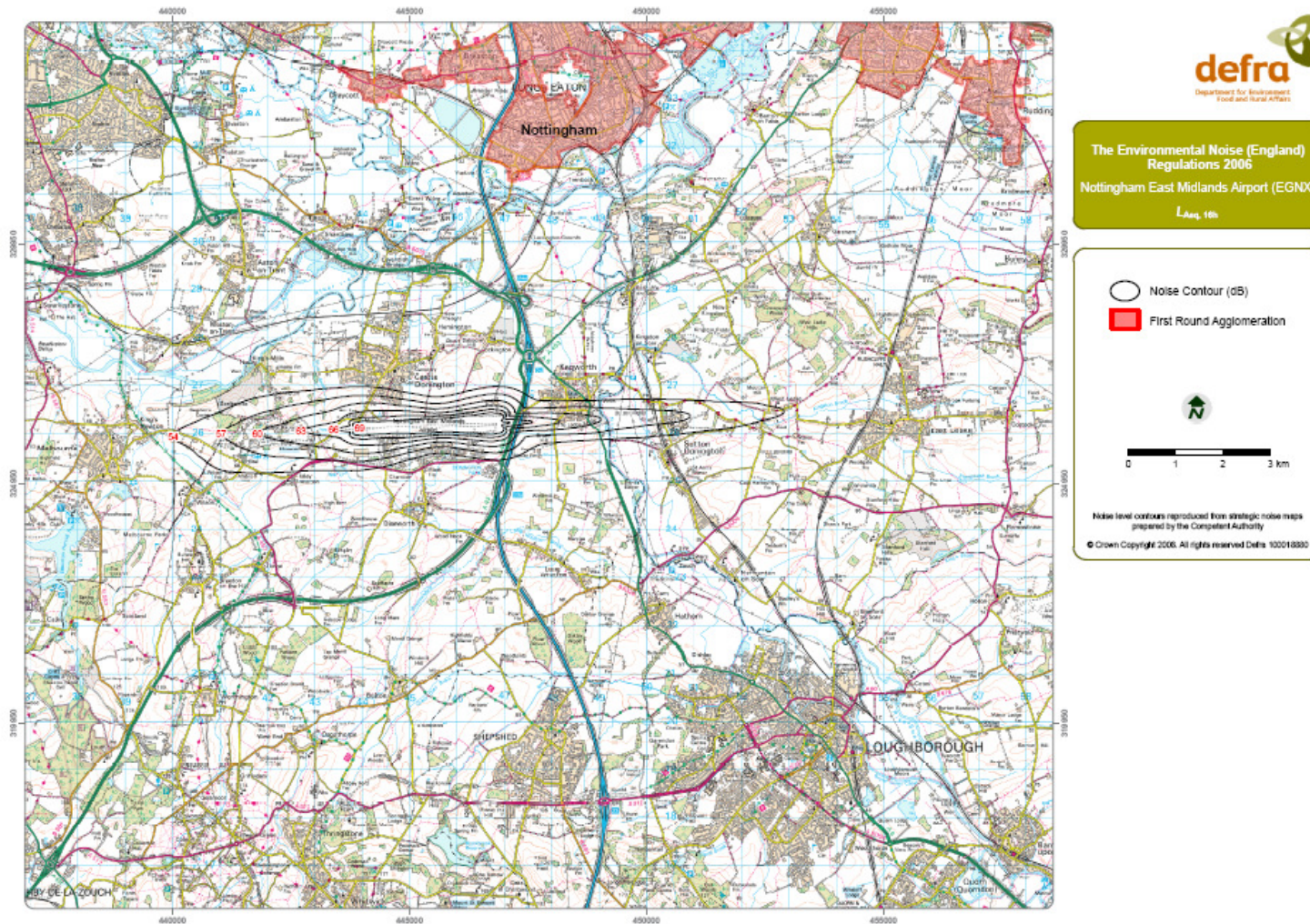
Map 2: 2006 Lday noise contours for East Midlands Airport



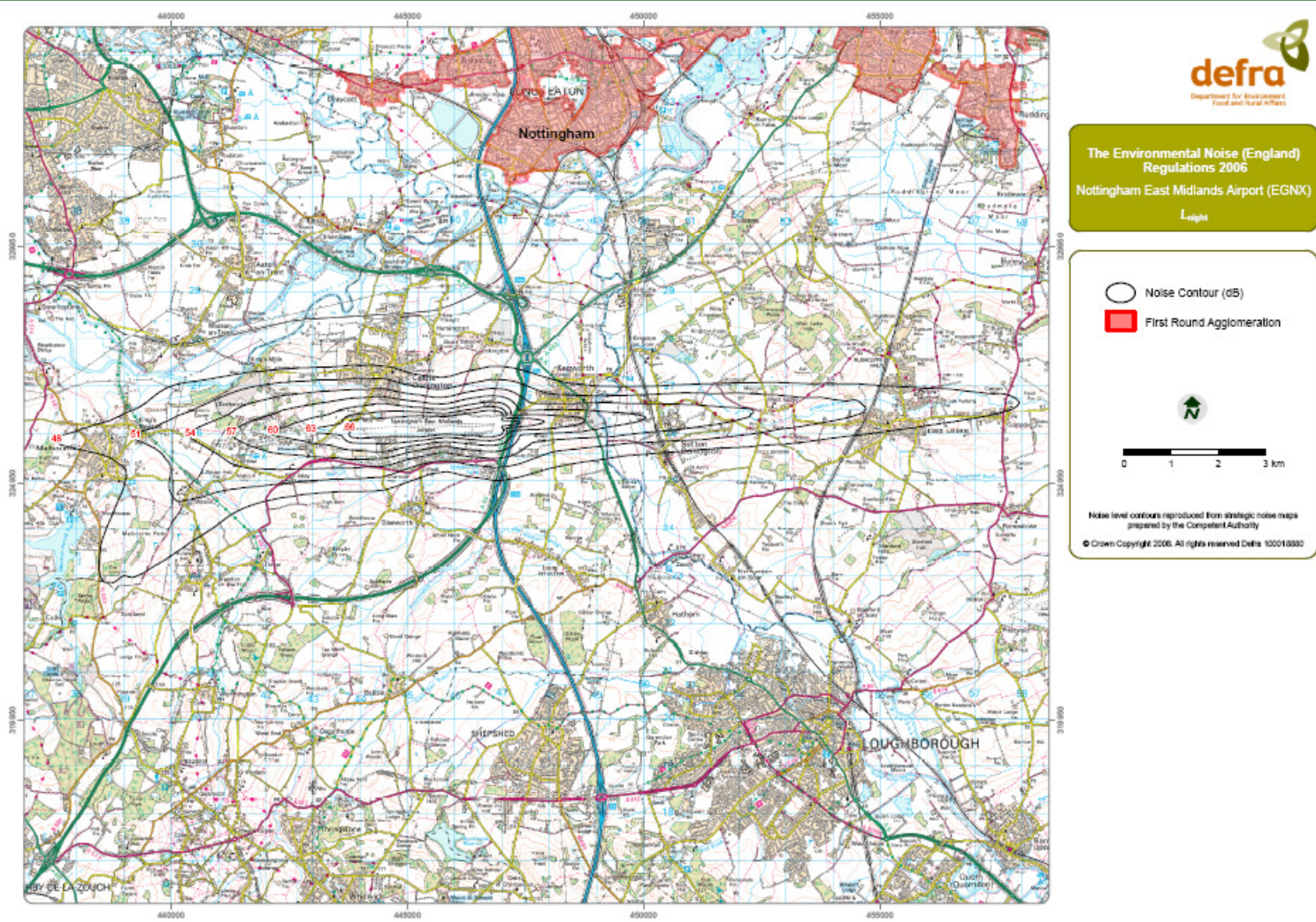
Map 3: 2006 Levening noise contours for East Midlands Airport



Map 4: 2006 L_{Aeq16h} noise contours for East Midlands Airport



Map 5: 2006 Lnight noise contours for East Midlands Airport



Forecast Night Time Noise Contour 2016

APPENDIX 1B



APPENDIX 2**Membership of the EMA Independent Consultative Committee (ICC).**

This Committee, together with two Sub Committees, the Monitoring, Environment, Noise and Track (MENT) and Transport, Economic Development and Public Transport (TEP), fulfils the role of facilitating adequate facilities for consultation for users of the Airport, local authorities and organisations representing people in the locality of the Airport as required by Section 35 of the Civil Aviation Act 1982. The main Committee and both Sub Committees each meet three times a year.

CPRE Derbyshire
 East Staffordshire Borough Council
 Nottinghamshire Association of Local Councils
 People Against Intrusive Noise (PAIN)
 Derby City Council
 Derbyshire County Council
 Nottinghamshire County Council
 Demand East Midlands Airport Now Designated (DEMAND)
 Nottingham City Council
 Leicestershire Chamber of Commerce
 Association of Airport Related Parish Councils
 Institute of Export
 Save Aston Village Environment (SAVE)
 Jobcentre Plus
 Loughborough University
 Melbourne Civic Society
 East Midlands Development Agency (EMDA)
 South Derbyshire District Council
 ABTA
 DHL Aviation (UK) Ltd
 Derbyshire Association of Local Councils
 Airport Operators Committee
 Kings Newton Residents Association
 Rushcliffe Borough Council
 WHICH
 Unites Parcel Service
 Derbyshire and Nottinghamshire Chamber of Commerce
 Derbyshire Association for the Blind (DAB)
 Donington Park
 Erewash Borough Council
 Leicestershire County Council
 Leicestershire and Rutland Association of Local Councils
 Derby City Council
 WINGS
 Charnwood Borough Council
 North West Leicestershire District Council

CPRE Leicestershire
CPRE Nottinghamshire and Rushcliffe
Leicester City Council
Broxtowe Borough Council
Unison
Independent Chair Mr B. Whyman

APPENDIX 3A**Population and Dwelling Exposure Statistic - EMA**

Estimated total number of people and dwellings above various noise levels (L_{den}):

Noise level (dB)	Number of Dwellings	Number of People	Contour Area (km ²)
≥55	4350	10500	35
≥60	1100	2400	14
≥65	300	700	6
≥70	<50	<100	2
≥75	0	0	1

Estimated total number of people and dwellings above various noise levels (L_{day}):

Noise level (dB)	Number of Dwellings	Number of People	Contour Area (km ²)
≥54	1000	2200	14
≥57	500	1100	8
≥60	200	400	5
≥63	<50	<100	3
≥66	0	0	2

Estimated total number of people and dwellings above various noise levels ($L_{evening}$):

Noise level (dB)	Number of Dwellings	Number of People	Contour Area (km ²)
≥54	1150	2600	15
≥57	650	1500	9
≥60	300	700	5
≥63	100	300	3
≥66	0	0	2

Estimated total number of people and dwellings above various noise levels ($L_{Aeq,16h}$):

Noise level (dB)	Number of Dwellings	Number of People	Contour Area (km ²)
≥54	1050	2400	14
≥57	550	1200	8
≥60	200	500	5
≥63	<50	<100	3
≥66	0	0	2

Estimated total number of people and dwellings above various noise levels (L_{night}):

Noise level (dB)	Number of Dwellings	Number of People	Contour Area (km ²)
≥48	4800	11500	37
≥51	1800	4100	21
≥54	950	2100	12
≥57	450	1000	7
≥60	150	400	4
≥63	<50	<100	2
≥66	0	0	1

APPENDIX 3B**Populations Exposed to Aircraft Noise from English Airports**

Airport	Lden popⁿ exposure (55-59 dB (A))	Lnight popⁿ exposure (50-54 dB (A))
East Midlands Airport	8000	4100
Birmingham International	32400	17500
Blackpool	400	0
Bournemouth	3300	100
Bristol	3800	1300
Coventry	3300	2100
Leeds Bradford	7400	900
Liverpool	3500	2500
London City	10500	0
London Gatwick	9300	4100
London Heathrow	561500	145300
London Luton	6500	2400
London Stansted	7800	3200
Manchester	63100	32000
Newcastle	4400	2100
Shoreham	1100	0
Southampton	10100	2900
Southend	4400	700

Source: Defra Noise Mapping

APPENDIX 4

List of Consultees

County Councils

Leicestershire
Nottinghamshire
Derbyshire

District Councils

North West Leicestershire District Council
Rushcliffe Borough Council
South Derbyshire District Council

Parish Councils

Kingston on Soar
West Leake
East Leake
Costock
Normanton on Soar
Sutton Bonington
Weston on Trent
Melbourne
Kegworth
Long Whatton and Diseworth
Isley Walton
Breedon on the Hill
Hemington and Lockington
Castle Donington

Other

Independent Consultative Committee
Business partners
National Air Traffic Services
National Trust
Airport Joint Working Group
MPs and MEPs

Current Noise Amelioration Measures

APPENDIX 5

	Development Planning 1998 Commitments	Position as at 2005	Additional Measures Proposed by Consultation Draft Master Plan	Additional/Amended Measures as at Final Master Plan December 2006
Aircraft Noise	<ul style="list-style-type: none"> Use noise monitoring and operational procedures to minimise noise Reduce noise from ground support equipment, in particular by introducing electrically powered vehicles Introduce operational measures to minimise ground running of engines 	<ul style="list-style-type: none"> Discounts for large aircraft to promote operation by day in preference to night Chapter 3 : Chapter 4 ratio to be 10:90 by 2011 Prohibition of scheduled operations at night by QC8/QC16 aircraft Noise penalty scheme to fine departing aircraft that are 'unduly' noisy with proceeds being transferred to a Community Fund Noise abatement departure procedures Beginning to consistently adopt continuous descent approach technique for arriving aircraft 	<ul style="list-style-type: none"> Progressive introduction of quieter aircraft types to achieve 100% Chapter 4 aircraft by 2012 Propose to extend ban on QC8/QC16 operations to include ad-hoc movements as well as scheduled movements. Any QC8/QC16 movements at night to be subjective to increased noise surcharge. Refinement of the Noise Penalty Scheme with the objective of ensuring that aircraft operate as quietly as possible. Continuous descent approach monitored and reported. 	<ul style="list-style-type: none"> New fees and charges structure to encourage daytime operations by aircraft Surcharge set up to five-times the previous surcharge Noise penalty scheme revised with extra bands. More stringent limits and increased penalties Continuous descent approach now at 80% with target for further improvement

	Development Planning 1998 Commitments	Position as at 2005	Additional Measures Proposed by Consultation Draft Master Plan	Additional/Amended Measures as at Final Master Plan December 2006
		<ul style="list-style-type: none"> • Procedures to minimise use of reverse thrust • Regular meetings with Pilots' Liaison Group to develop and share best practice • Stringent noise preferential routings for departing aircraft with 98% compliance by airlines • Preferential runway policy to allowing aircraft to land with a tail wind so as to minimise noise to local villages • Instructions to pilots to avoid flying over local villages where possible • Intersection take offs to move the point at which some aircraft begin their take off run further from the village of Kegworth. 		<ul style="list-style-type: none"> • Precision Route Navigation (Prnav) trial underway with potential for further reduction of noise and fuel burn • Release height on noise preferential routings increased to 5,000 feet (from 3,000 feet) to ensure that aircraft fly the routings for as long as is practicable

	Development Planning 1998 Commitments	Position as at 2005	<u>Additional Measures Proposed by Consultation Draft Master Plan</u>	<u>Additional/Amended Measures as at Final Master Plan December 2006</u>
		<ul style="list-style-type: none"> • Sound insulation grant scheme to provide grants of up to £2,000 to those within the 55 decibel night noise contour (55 dB_{L_AEQ,8h}) 	<ul style="list-style-type: none"> • Enhancing the Sound and Insulation Grants Scheme (SIGS) with the suggested focus upon those areas most heavily impacted and subject to defining detailed rules. The proposed enhancements include: <ul style="list-style-type: none"> ▪ Accepting the principle that those dwellings regularly exposed at night to single aircraft noise events of 90 db(A) SEL or greater should be offered a sound insulation grant. ▪ Increasing the grant award offered to dwellings within the 55 decibel night noise contour (55dB_{L_AEQ,8h}) to up to £3,000 (backdated for beneficiaries of the current scheme). ▪ Increasing the grant award offered to dwellings within the 60 decibel night noise contour (60dB_{L_AEQ,8h}) to up to £5,000 (backdated for beneficiaries of the current scheme). ▪ Increasing the grant award offered to dwellings within the 66 decibel night noise contour (66dB_{L_AEQ,8h}) to up to £10,000 	
	Development Planning 1998	Position as at 2005	<u>Additional Measures</u>	<u>Additional/Amended</u>

	Commitments		Proposed by Consultation Draft Master Plan	Measures as at Final Master Plan December 2006
		<ul style="list-style-type: none"> • Prohibition of training flights on Sundays and public holidays • Target to ensure that the 57 decibel night noise contour (57 dB_{LAEQ,8h}) remains at an area of 16 sq km or less up to 2011 	<ul style="list-style-type: none"> ▪ (backdated for beneficiaries of the current scheme). Or alternatively to make the same amount available for relocation. ▪ The offer to purchase outright any dwelling within the 69 decibel night noise contour (69dB_{LAEQ,8h}) ▪ Establishing a fund to provide sound insulation grants to sensitive buildings such as schools which would not otherwise qualify for assistance. • An increased commitment to the Community Fund. ▪ Target that 57 decibel night noise contour (57 dB_{LAEQ,8h}) remains at an area of 16 sq km or less up to 2016 	<ul style="list-style-type: none"> • Training flights by jet aircraft to be prohibited on Saturday. Training by airlines not normally using the Airport to be wound down. • Target for 2016 noise levels to remain at or below the 1996 noise contour (57 dB_{LAEQ,8h}) levels (14.6 sq km)

	Development Planning 1998 Commitments	Position as at 2005	<u>Additional</u> Measures Proposed by Consultation Draft Master Plan	<u>Additional/Amended</u> Measures as at Final Master Plan December 2006
		<ul style="list-style-type: none"> Noise and radar track monitoring including permanent community noise monitoring at the village of Kegworth Procedural controls to minimise ground running of engines at night 		<ul style="list-style-type: none"> Webtrak – internet display of aircraft tracks (with 24 hour delay) launched September 2006

APPENDIX 6

List of Respondents

Members of Public

55 Responses

Others

Airport Joint Working Group
Assoc. of International Courier & Express Services
Aston on Trent Parish Council
Campaign For Protection of Rural England
Castle Donington Parish Council
David Taylor MP
Derbyshire County Council
DHL
Environmental Protection UK
Leicestershire County Council
Long Whatton & Diseworth Parish Council
Mark Todd MP
Melbourne Civic Society
Melbourne Parish Council (2)
National Trust
Repton Parish Council
Repton Village Society
Save Aston Village Environment
Smisby Parish Council
Sutton Bonington Parish Council
UPS
West Leake Parish Meeting

APPENDIX 7**Glossary of Terms**

Agglomeration	An area having a population in excess of 100,000 persons and a population density equal or greater than 500 people per km ² and which is considered to be urbanised.
ATWP	Air Transport White Paper: Published in 2003 the Government's principal statement of aviation development policy in the UK.
CDA	Continuous Descent Approach: A noise abatement technique applied to arriving aircraft.
Chapter 4	The most stringent international noise certification standard for commercial jet aircraft, defined by the International Civil Aviation Organisation.
dB(A)	A-weighted Decibel: A unit of noise measurement in decibels applying a weighting to more closely reflect the response of the human ear.
Laeq	The continuous equivalent sound level, or Leq, but weighted to more closely reflect the response of the human ear.
Lday	The A-weighted average sound level over a 12 hour period between 07:00 and 19:00.
Lden	The Day, Evening, Night Level: A logarithmic composite of the Lday, Levening and Lnight with 5 dB(A) added to the Levening value and 10 dB(A) added to the Lnight value.
Levening	The A-weighted average sound level over a 4 hour period between 19:00 and 23:00.
Leq	Continuous equivalent sound level of aircraft noise expressed over a defined time period.
Lnight	The A-weighted average sound level over an 8 hour period between 23:00 and 07:00.
Defra	Department for Environment, Food and Rural Affairs
END	Environmental Noise Directive
ICAO	International Civil Aviation Organisation
NAP	Noise Action Plan: The plan required by the Environmental Noise Directive, to ensure that environmental noise from operations at major airports is, where necessary, prevented or reduced.
Noise Map	A set of noise contours resulting from the strategic noise mapping exercise set out in the Environmental Noise (England) Regulations 2006

	(as amended).
Noise Contour	A map contour indicating noise exposure in decibels for the area that it encloses
SEL	Sound Exposure Level: The noise level generated by a single aircraft. To take account of frequency and time the total noise energy associated with the single noise event is normalised over a period of 1 second.
SIGS	Sound Insulation Grant Scheme: A voluntary scheme operated by the Airport that makes grants of up to £10,000 available to the owners of those dwellings most exposed to aircraft noise, to improve noise insulation.
QC	Quota Count: A noise ranking system whereby each aircraft type is assigned a points total reflecting its certified noise either on arrival or departure.