MANSTON AIRPORT

Noise Action Plan – First Draft

Contents

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INTRODUCTION TO THIS DRAFT NOISE ACTION PLAN FOR MANSTON AIRPORT

Bickerdike Allen Partners have been retained by Manston Airport (MA) to prepare a Noise Action Plan (NAP) as required under the Environmental Noise (England) Regulations 2006[1].

The process for those airports, such as MA, where this is their first NAP is described in Section 4 of the Defra Guidance for Airport Operators to produce noise action plans under the terms of the Environmental Noise (England) Regulations 2006[2]*. This is to produce noise action plans under the terms of the Environmental Noise (England) Regulations 2006. In summary this involves the drawing up of a draft NAP in consultation with the Airport's Consultative Committee and when that draft is completed it is to be put out for a 16 week period of widespread consultation with local interests prior to the submission of the finalised plan.*

This document consists of a first draft of the Action Plan to enable discussions to proceed with the airport Consultative Committee and also other parties with whom the airport would wish to consult at this stage.

The draft of the NAP follows the structure of the final NAP with information to be supplied by MA or others indicated in the text. The draft includes an introduction to the Airport in addition to any limit values on noise and aircraft movements in place, a summary of the results of the strategic noise mapping for the Airport[3]*, an evaluation of the estimated number of people exposed to noise, any noise reduction measures already in place and those in preparation. It also includes a description of the complaints handling procedures in place and actions which MA expects to take in the next 5 years and the provisions envisaged for evaluating the implementation and the results of the Action Plan.*

1. The Environmental Noise (England) Regulations 2006, Statutory Instrument 2006 No. 2238.
2. Department for Environment Food and Rural Affairs (Defra), 2013, Guidance for Airport Operators to produce noise action plans under the terms of the Environmental Noise (England) Regulations 2006 (as amended) update July 2013, Department for Environment, Food and Rural Affairs.
3. Bickerdike Allen Partners, *Manston Airport Strategic Noise Mapping Report 2011*, A9567-R01-NW, October 2013.

1.0 INTRODUCTION

1.1 Noise Action Plan: Purpose and Scope

All UK airports are required to prepare a Noise Action Plan (NAP) under The Environmental Noise (England) Regulations 2006[1]. These regulations are a result of the European Directive EC 2006/93 Assessment and Management of Environmental Noise, commonly known as the Environmental Noise Directive (END).

Manston Airport has operated as a civilian airport since 1960 and has been growing over time in response to the increase in passenger and freight transport by air in the UK. A result of airport growth is increased environmental noise for the local community.

To combat this increase, strict planning requirements have been put in place by Thanet District Council to control this noise. MA takes environmental noise very seriously, and works closely with the local authority, Thanet District Council, to make sure that these requirements are met.

Under the Environmental Noise (England) Regulations 2006, it is a requirement for certain airports to undertake Strategic Noise Mapping and to prepare a Noise Action Plan (NAP) every five years. The qualifying criteria are either exceeding a certain activity level, or by exposing parts of an agglomeration to certain noise levels where an agglomeration is defined in the regulations. The preparation of the Strategic Noise Maps for Manston Airport (MA) in 2012/2013 found that parts of the Ramsgate agglomeration were exposed to the qualifying noise levels and consequently a Noise Action Plan is now to be prepared.

The aim of the NAP is to limit and, where possible, reduce the number of people significantly affected by aircraft noise. This is to be done by establishing the current noise impact based on the Strategic Noise Maps produced by Manston Airport (MA) for 2011[3] (see Appendices), considering whether or not the existing noise control measures are adequate protection for the local community compared with Government and EU guidelines and regulations.

The legislative context relating to the management of noise from the Airport is given in the Appendices.

Currently, an agreement exists between Thanet District Council and MA, made in accordance with Section 106 of the Town and Country Planning Act (the s106 agreement), which provides a framework in order for the local planning authority to control the operation of the airport so that the substantial benefits of air services can be realised whilst managing the effects of the airport in the community.

The NAP is based on the Defra *Guidance for Airport Operators to produce noise action plans under the terms of the Environmental Noise (England) Regulations 2006* updated in 2013[2].

It considers whether the current noise control measures are sufficient with respect to MA's 2011 operations, and also describes other measures that will be introduced over the coming years to further mitigate the impact of the Airport's operations on the local community.

In 2013 all major UK airports were required to prepare Strategic Noise Maps under the Environmental Noise (England) Regulations 2006, based on aircraft movements that occurred during the 2011 calendar year. These maps were produced by MA and submitted to the Secretary of State for Transport for publication by Defra. It is a Defra requirement that the NAP is based on these 2011 maps. These noise maps are given in the Appendices along with the results of the END.

Strategic Noise Maps have to be produced every 5 years for all agglomerations near all major roads which have more than 6 million vehicle passages a year, major railways which have more than 60,000 train passages per year and major airports with more than 50,000 aircraft movements annually within their territories.

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

MA has also considered the impacts of future growth at the airport in this NAP. The NAP will therefore make sure that adequate noise protection continues until the next Strategic Noise Map is produced in 2018.

1.2 Manston Airport

1.2.1 Airport location

Manston Airport lies approximately 20 km northeast of Canterbury, Kent and 4 km west of Ramsgate. Broadstairs and Margate lie approximately 6 km to the north-east of the Airport. The Airport's runway is aligned generally east-west across the southern part of the airport site and has a bearing of 10/28 and a length of 2748 m. The aprons, passenger terminal, freight terminal and other buildings are located to the north of the runway.

Nearby transport routes include the A299 and A28 to the west of the Airport. The A256 lies to the southeast of the Airport. The railway line serving, amongst other locations, Ramsgate, Broadstairs and Margate lies to the south, east and north of the Airport.

1.2.2 Airport operations

In 2011 MA had 18,695 aircraft movements, of which 1,965 were air transport movements. The airport served approximately 48,500 passengers in 2011.

As well as passenger traffic serving the Netherlands, charter flight destinations during the summer months include Malta, Italy, Austria and Croatia.

is a highly specialised freight handler, processing 22,909 tonnes of freight in 2011 freight aircraft movements per year). The majority of freight handled consists of imported perishable produce from Nairobi in Kenya and Accra in Ghana. These time sensitive shipments utilise large jet aircraft such as the Boeing 747-400, Boeing B747/8F, MD11 and the Airbus A300.

General aviation aircraft, including privately owned larger aircraft and small to medium sized jet aircraft, regularly operate from MA. Privately owned aircraft based at Manston offer pilot training, local sightseeing flights and are used for private operations.

Commercial airlines also use MA for crew validation (training) flights and test flights of the new Airbus A380 and Boeing 787 Dreamliner.

2.0 NOISE MANAGEMENT

2.1 Noise management at Manston Airport

Control of noise is a key element in Manston Airport's efforts to minimise the environmental impact of its operations on the local area. This commitment is demonstrated by the low number of noise complaints which have been historically received (see Section 2.4 below) and the production of $L_{Aeq,16hr}$ air noise contours.

Noise associated with an airport originates most significantly from aircraft in flight, but also from ground movements, engine testing, road traffic, and construction work.

As noted above, an agreement currently exists between Thanet District Council and MA, made in accordance with Section 106 of the Town and Country Planning Act (the S106 agreement). The aircraft noise issues addressed by the S106 agreement address the following:

- Night-time flying
- Preferred departure runway
- Noise abatement routes
- Noise monitoring
- Engine testing.

The following sections cover both the S106 agreement with respect to current and future noise management measures at the airport. Details of environmental noise complaints are also given below.

2.2 Current noise management measures

2.2.1 Airport operating hours and movement limits

The airport operates 24 hours a day. Although there is no rule in place which bans flights between certain hours at the airport, scheduling of regular flights between 2300 hours and 0700 hours is not permitted. The S106 agreement has within it a system whereby aircraft arriving and departing between 2300 hours and 0700 hours are allowed, provided a payment is made into a community fund for aircraft movements which exceed a noise Quota Count (QC) rating of 4. Noise classification for an aircraft on take-off or landing is judged in accordance with the QC detailed in Table 1.

Noise Classification (EPNdB)	QC Points
< 90.0	0.5
90.0 to 92.9	1.0
93.0 to 95.9	2.0
96.0 to 98.9	4.0
99.0 to 101.9	8.0
> 101.9	16.0

Table 1: MA aircraft noise classification

The community fund is audited by the Kent International Airport Consultative Committee (KIACC) and Thanet District Council, with the funds collected and distributed by a panel to applicant organisations located in the area affected by aircraft noise.

As part of the S106 agreement, flight movement numbers were limited to ensure that they did not result in a 63 dB $L_{Aeq,16hr}$ contour, based on the previous 12 months' operations, that exceeded the contour produced in 1996. If the contour exceeded the 1996 contour then the airport was subject to financial penalties. This requirement was valid for 24 months from the signing of the S106 agreement.

Although this 24 month period for comparison to the 1996 contour expired in 1998, MA have produced 63 dB $L_{Aeq,16hr}$ contours, based on the previous 12 months' operations, to monitor the environmental impact of its operations on the local area.

2.2.2 Departure and arrival routes

As part of the S106 agreement, Runway 28 is the preferred departure runway with best endeavours made (subject to safety, air traffic and weather) to achieve a target of 70 % of all departures on that runway.

Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs) prescribe the routes to and from MA. These have been established by the Civil Aviation Authority based on the requirements of the s106 agreement in order to minimise disturbance on adjacent residential areas and are described in detail by the UK Aeronautical Information Publication (AIP)[4].

In summary, subject to aircraft separation requirements, aircraft departing to the west (Runway 28) turn right after take-off, avoiding Herne Bay. This restriction does not apply to aircraft operating in the training circuit and returning back to the airport.

Aircraft undertaking circuit training to the north of the runway are to avoid overflying Margate and Broadstairs by keeping their path over the sea until they approach the runway. Aircraft undertaking circuit training to the south of the runway are to avoid overflying densely populated areas and to endeavour to keep north, and clear, of Sandwich.

2.2.3 Noise monitoring

In line with the S106 agreement, the noise emitted by aircraft using the Airport is monitored. Currently noise monitors are installed beyond the airport boundary at either end of the runway[5] and have been interfaced with a flight movement database, which records corresponding aircraft type data and passes this information on to the KIACC. The noisiest aircraft movements during the quarterly period are reported.

Thanet District Council also uses a mobile noise monitor funded by the airport to take measurements at other locations as necessary.

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4. NATS IAIP (2013) Manston – EGMH Charts related to the Airport [Online], Available http://www.nats-uk.ead-it.com/public/index.php%3Foption=com_content&task=blogcategory&id=102&Itemid=151.html [1 Nov 2013].
5. Located at the St Nicolas-at-Wade roundabout and Chapel Street in Ramsgate.

2.2.4 Ground noise

Noise generated by operations other than aircraft in flight or taking off and landing is known as ground noise. The main source of ground noise is aircraft taxiing between runways and stands. This includes all holding, engine start up and shut down procedures, auxiliary power units (APUs) used by aircraft whilst on stand and ground running of aircraft engines during maintenance.

To mitigate the effect of any ground noise, use of APUs and other ground noise is also controlled in accordance with best practice guidelines.

2.2.5 Engine testing

From time to time, aircraft are required to test their engines on the ground for maintenance reasons.

Various measures are in place to minimise the effects of nosie from engine testing. These are listed below:

- Engine testing is permitted between 0800 and 2100 hours
- Continuous engine testing is limited to 60 minutes duration with breaks of a period at least equal to the period of any engine test required between tests
- The alignment of any aircraft on which engines are being tested is such as to project the noise envelope over the maximum airport area
- The cumulative effect of Engine Testing is restricted to ensure that the 13-hour noise level around the Airport does not increase by more than 1 dB
- The airport does not knowingly permit any aircraft to land for the purpose of any engine testing (except in accordance with the S106 requirements for engine testing).

Between 2300 and 0800 hours no engine testing shall occur other than for emergency purposes (which shall not exceed 5 separate occurrences in any calendar year). Between 2100 and 2300 hours the number of engine tests is limited to 10 separate occurrences in any calendar year, including emergencies.

2.3 Future noise management measures – the next five years

Subject to approval of the airport's night-time flying policy, the following additional noise management measures would be adopted:

2.3.1 Night noise Quota Count

The Noise Quota system in regular and successful use at other airports (Bristol, Birmingham, Gatwick, Heathrow, Liverpool, Doncaster, Manchester and Stansted) will be adopted. This system allocates a Quota Count (QC) to each arrival or departure, based on the aircraft manufacturer's noise certification of the aircraft operating at maximum weight. The proposed Quota Count System for MA is as follows:

a Night-time Period will be 2300 to 0700 local time.

b Night-time Quota Period will be 2330 to 0600 local time.

c Annual Quota Count will be the sum of the individual Quota Counts (QC) of all flights arriving or departing during the Night-time Quota Period within a calendar year (January to December).

d Aircraft movements greater than QC4 will be prohibited during the Night-time Period.

e Annual Quota Count not to exceed 1,593.

f The total annual number of aircraft movements during the Night-time Quota Period will not exceed 659.

g Preferred Departure Runway and Noise Abatement Routes as set out in the S106 (see Section 2.2.2) to be used whenever possible during the Night-time Period consistent with safe operations.

To improve the current monitoring and reporting of night flights, each flight that operates during the Night-time Period will be reported monthly to Thanet District Council and the KIACC.

2.3.2 Monthly publication of noise data

The airport will publish monthly noise data on its website to ensure that this is accessible to members of the public.

2.3.3 Sound insulation scheme

MA will introduce a Sound Insulation Scheme. Properties lying within the 57 dB $L_{Aeq,8hr}$ contour, which have not been constructed to suitable building standards and do not already possess suitable sound insulation, will be provided with sound insulation to habitable rooms used as bedrooms. Over time and in a phased manner, the airport would be committed to the same being applied to dwellings with the 55 dB $L_{Aeq,8hr}$ contour. In addition, those properties

that are exposed to a level of 95 dB(A) SEL on average once per night over a year will also become eligible for this treatment.

An assessment carried out as part of the submission of the proposed night flying scheme showed that currently (2011) no dwellings fall within the trigger level contours and that, by 2018, some 72 dwellings would lie within the 57 dB $L_{Aeq,8hr}$ contour and 512 additional dwellings within the 55 dB $L_{Aeq,8hr}$ contour that may become entitled to sound insulation.

2.4 Environmental complaints

Complaints to the airport can be made by anybody via the MA website, email, post or phone.

Each complaint is registered by the airport and is reviewed and responded to, with complaints reported to Thanet District Council and the KIACC.

Complaints are categorised by whether they relate to noise, off-route, low flying or pollution. Noise complaints are processed according to location and whether the complaint relates to night flights.

Figure 1 presents the number of noise complaints received by MA between October 2010 and October 2013 per 1000 aircraft movements. Aircraft movement numbers are taken from CAA statistics[6].

6. Civil Aviation Authority (2013) UK Airport statistics [Online], Available http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&pageid=3&sglid=3 [12 Nov 2013].

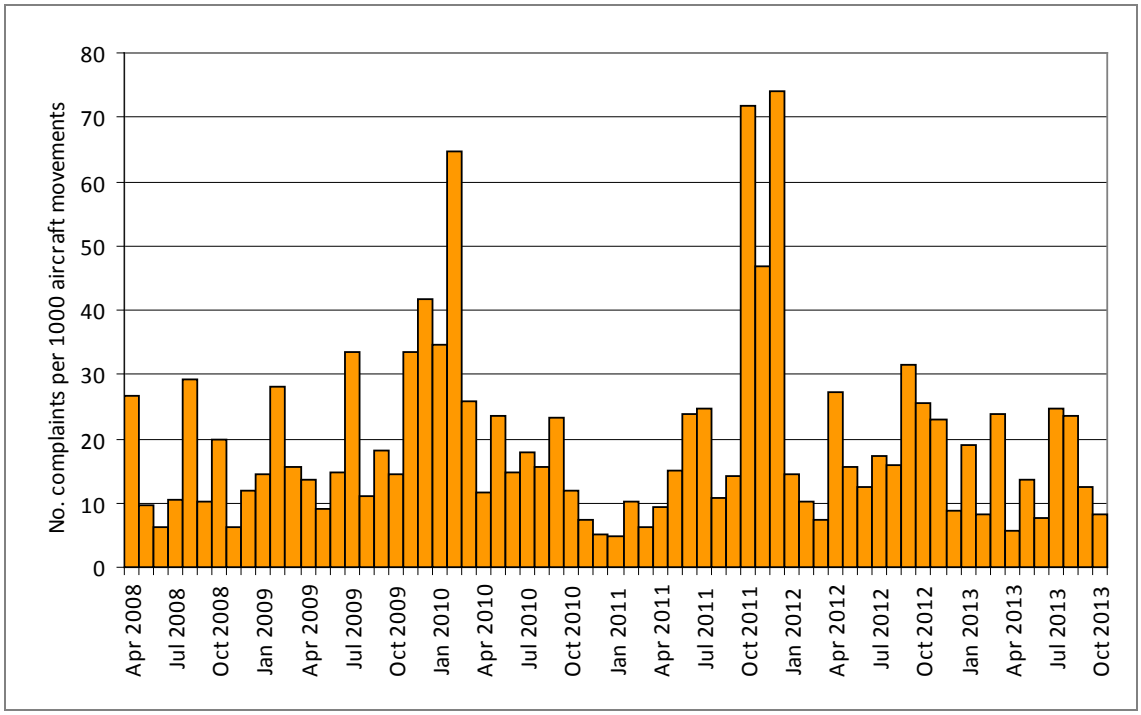

Figure 1: MA aircraft noise classification

2.5 Quiet Areas

It is a requirement of the Action Plan that consideration is given to quiet areas which may be more sensitive to rises in noise levels. Identification will be made in conjunction with the Local Authority of any areas around the airport that fall within this bracket to aid in the reduction of noise impact on the surrounding environment.

3.0 ASSESSMENT OF NOISE MANAGEMENT MEASURES

The following section of the NAP summarises an assessment of current noise levels compared against legal guidelines and requirements. A detailed commentary on the legislative context for noise management that inform this Noise Action Plan is provided in Appendix C. The results of the END Noise Mapping are provided in Appendix D, together with details of the number of dwellings and people contained within the day and night noise contours currently. Information is also given to establish whether the noise impacts arising from the current activities of MA are acceptable under the terms of the Environmental Noise (England) Regulations 2006.

3.1 Environmental Noise Directive (END) and Environmental Noise Regulations

The Environmental Noise Directive (END) 2002/49/EC concerning the assessment and management of environmental noise from transport, came into effect in June 2002. This directive was implemented in the UK by the Environmental Noise (England) Regulations (see below). Its aim was to define a common approach across the European Union with the intention of avoiding, preventing or reducing on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. This involves:

- informing the public about environmental noise and its effects;
- preparation of strategic noise maps for large urban areas ('agglomerations'[7]), major roads, major railways and major airports as defined in the END; and,
- preparation of action plans based on the results of the noise mapping exercise.

Noise maps and noise action plans aim to manage and reduce environmental noise where necessary, and to preserve environmental noise quality where it is good.

A transposition of EC/2002/49/EC was laid before Parliament in September 2006 as the Environmental Noise (England) Regulations 2006 (SI 2006/2238) and came into force in 2006.

As Manston Airport exposes an agglomeration with a population of 100,000 persons to noise levels in excess of 55 dB(A) L_{den} or 50 dB(A) L_{night}, it is required to produce noise maps on a rolling (5 year) basis. Noise maps for MA were issued to Defra in 2012 and are awaiting publication.

The Regulations also require relevant airports to undertake an action planning process and produce a Noise Action Plan, the subject of this document.

3.2 Aviation Policy Framework

The Aviation Policy Framework (APF) was published this year in March by the Department for Transport (DfT). The APF replaces the 2003 Future of Air Transport White Paper in conjunction with relevant policies and any decisions which Government may take in response to recommendations made by the Airports Commission which is due to issue its final report and recommendations in 2015.

7. Department for Environment Food and Rural Affairs (Defra), 2006, Airport Technical Guidance The Environmental Noise (England) Regulations 2006, Department for Environment, Food and Rural Affairs.

On managing aviation's environmental impacts, and specifically noise, the APF states that the Government's overall objective on noise is to:

> *"…limit and where possible reduce the number of people in the UK significantly affected by aircraft noise".*
>
> *"…encourage the aviation industry and local stakeholders to strengthen and streamline the way in which they work together"*.

As with the earlier 2003 Future of Air Transport White Paper, the APF confirms the 57 dB $L_{Aeq,16h}$ contour as marking the approximate onset of significant community annoyance. Also, households exposed to levels of noise of 69 dB $L_{Aeq,16h}$ will be given assistance with the costs of moving. For noise sensitive buildings such as schools and hospitals within the 63 dB $L_{Aeq,16h}$ contour would be offered acoustic insulation.

Table 9 in Appendix D shows that there are less than 100 dwellings and less than 100 people within the 57 dB $L_{Aeq,16h}$ contour at MA. There are no dwellings within the 63 and 69 dB $L_{Aeq,16h}$ contours. In the case of night noise, there are fewer than 100 dwellings and less than 100 people located within the 48 dB L_{night} with a similar amount located within the 51 dB L_{night} noise contour.

3.3 Thanet District Council – Section 106

Manston Airport's planning agreement with Thanet District Council (a 'Section 106 agreement') from August 2000 requires the Airport to have in place policies to manage and control:

- Night-time flying
- Preferred departure runway
- Noise abatement routes
- Noise monitoring
- Engine testing.

As detailed in Section 2.2, MA has implemented policies to cover the requirements of the S106.

3.4 Airport Consultative Committee

A Consultative Committee has been in place at the airport since the commencement of civil operations in March 1998. The Committee meets at least four times per year, with one

meeting being held in public. The Committee undertakes an advisory role and ensures information regarding the airport operations is reported to local people in a transparent and understandable format.

3.5 END Noise Mapping

The noise maps and the results of noise mapping undertaken under the terms of the regulations are included Appendix D. Noise Maps were prepared by MA based on actual aircraft movements during the calendar year of 2011. Population and dwelling exposure statistics have been provided by the Department for Environment Food and Rural Affairs (Defra).

Guidance on how to determine the acceptability of noise levels has been provided to airport operators by Defra[2] which states that account should be taken of current legislation and guidance as well as any relevant local planning conditions. This has been undertaken in Appendices C and D. It is concluded that the current noise impact of operations at MA lie within acceptable limits.

4.0 EVALUATION AND IMPLEMENTATION

Over the next five years, the current noise control measures that have been implemented and are listed in this plan for protecting the local community from the effects of aircraft operations and specifically the environmental noise that results from them will be reviewed to ensure they remain appropriate and suitable. This will be done by consideration of actual noise contours, based on aircraft movements for a given year, and by consideration of the level of noise complaints arising from the airport each year. MA remains committed to ensuring that the measures set out in the Section 106 Agreement are implemented as necessary. The success of the current procedures will be reviewed as part of the next action plan due in five years' time.

5.0 LONG TERM STRATEGY

MA issued its Master Plan[8] in November 2009. The Master Plan, which was developed to meet the aspirations of the 2003 Air Transport White Paper - 'The Future of Air Transport'[9] and the South East Plan [ref.] - was published following a wide-ranging consultation[8] The key strategic policy established was that most effective use should be made of existing runways, in order to delay or remove the need to construct new runways, or indeed airports.

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8. Kent International Airport – Manston, Master Plan, November 2009.
9. The Future of Air Transport, Department of Transport, December 2003.

On taking office in 2010 the Coalition Government stated that new runways would not be built at any of the three major London airports (Heathrow, Gatwick or Stansted). This decision has strengthened the case to make best use of existing runway capacity as growing demand for air travel and transport will need to be accommodated within existing runway capacity.

This national policy further increases the prospects for future demand at Manston.

A further purpose of the Master Plan set out in The Air Transport White Paper was for airports to set out their development plans over the next 25 years. These are to be used by local and regional planning authorities to inform the development of planning policy.

The Master Plan lays out the prospects for traffic growth at Manston Airport, together with the potential land use developments needed to accommodate this increase in activity. These activity levels are shown in Table 2.

Type	2010	2018	2033
Passengers (no. of)	< 50,000	2,286,000	4,752,000
Freight (tonnes)	31,600	167,500	401,200

Table 2: Prospects for traffic growth at MA

The actual traffic levels achieved in 2010 were 26,300 passengers and 28,374 tonnes of freight, broadly in line with the forecast. Total aircraft movements in 2010 were slightly below the Master Plan forecast, being 15,015 against a forecast of 18,084.

It is expected that the majority, but a declining proportion of aircraft movements will be made by light aircraft. Of the current commercial flights, approximately half are passenger related. Passenger traffic is forecast to grow at a substantially faster rate over the Master Plan period, accounting for almost 90% of commercial movements by 2018.

6.0 SUMMARY

This Draft Noise Action Plan has been prepared in compliance with the Statutory Instrument 2006 No. 2238 The Environmental Noise (England) Regulations 2006. The plan is designed to address the management of aircraft noise issues and effects from aircraft departing from and arriving at MA. The plan is informed by the results of the strategic noise mapping exercise that was undertaken by MA based on the number of aircraft movements in the 2011 calendar year.

Control of noise is a key element in Manston Airport's efforts to minimise the environmental impact of its operations on the local area. This commitment is demonstrated by the low number of noise complaints which have been historically received.

An agreement currently exists between Thanet District Council and MA, made in accordance with Section 106 of the Town and Country Planning Act (the S106 agreement). The aircraft noise issues addressed by the S106 agreement address the following:

- Night-time flying
- Preferred departure runway
- Noise abatement routes
- Noise monitoring
- Engine testing.

Details of each of the above, identifying the measures of control associated with each, are described in this Noise Action Plan.

Subject to approval of the airport's night-time flying policy, the following additional noise management measures would be adopted over the forthcoming years.

- Night-time flying policy
- Monthly publication of noise data
- Sound Insulation Scheme

The airport operates a comprehensive complaints handling system. Complaints are categorised by whether they relate to noise, off-route, low flying or pollution. Noise complaints are processed according to location and whether the complaint relates to night flights.

A Consultative Committee has been in place at the airport since the commencement of civil operations. The Committee meets at least four times per year, with one meeting being open to the public.

The main purpose of the Noise Action Plan is to establish the noise impact of the airport, and to consider whether the current noise control measures are sufficient to adequately protect the local community.

This Noise Action Plan has taken into account the following:

- Relevant guidance and legislation

- The current noise impact of operations at MA, as shown by the results of the END Strategic Noise Maps
- The noise measures already in place at the airport

This assessment has found that the environmental noise impact of existing operations at the airport are acceptable, based on the 2011 noise contours produced as part of the strategic noise mapping project.

The Master Plan lays out the prospects for traffic growth at Manston Airport, together with the potential land use developments needed to accommodate this increase in activity. It is expected that the majority, but a declining proportion of aircraft movements will be made by light aircraft. Of the current commercial flights, approximately half are passenger related. Passenger traffic is forecast to grow at a substantially faster rate over the Master Plan period, accounting for almost 90% of commercial movements by 2018.

The measures set out in this Noise Action Plan will assist in continuing to monitor the impacts of noise around the community to enable noise control measures to be introduced where necessary to comply with Government guidance to protect the amenity of the local community and to meet the requirements of the Environmental Noise (England) Regulations 2006.

APPENDIX A

Glossary of Acoustic and Aviation Terms

Sound

This is a physical vibration in the air, propagating away from a source, whether heard or not.

The Decibel, dB

The unit used to describe the magnitude of sound is the decibel (dB) and the quantity measured is the sound pressure level. The decibel scale is logarithmic and it ascribes equal values to proportional changes in sound pressure, which is a characteristic of the ear. Use of a logarithmic scale has the added advantage that it compresses the very wide range of sound pressures to which the ear may typically be exposed to a more manageable range of numbers. The threshold of hearing occurs at approximately 0 dB (which corresponds to a reference sound pressure of 2×10^{-5} Pascals) and the threshold of pain is around 120 dB.

The sound energy radiated by a source can also be expressed in decibels. The sound power is a measure of the total sound energy radiated by a source per second, in Watts. The sound power level, Lw is expressed in decibels, referenced to 10^{-12} Watts.

Frequency, Hz

Frequency is analogous to musical pitch. It depends upon the rate of vibration of the air molecules which transmit the sound and is measure as the number of cycles per second or Hertz (Hz). The human ear is sensitive to sound in the range 20 Hz to 20,000 Hz (20 kHz). For acoustic engineering purposes, the frequency range is normally divided up into discrete bands. The most commonly used bands are octave bands, in which the upper limiting frequency for any band is twice the lower limiting frequency, and one-third octave bands, in which each octave band is divided into three. The bands are described by their centre frequency value and the ranges which are typically used for building acoustics purposes are 63 Hz to 4 kHz (octave bands) and 100 Hz to 3150 Hz (one-third octave bands).

A-Weighting

The sensitivity of the ear is frequency dependent. Sound level meters are fitted with a weighting network which approximates to this response and allows sound levels to be expressed as an overall single figure value, in dB(A).

Environmental noise descriptors

Where noise levels vary with time, it is necessary to express the results of a measurement over a period of time in statistical terms. Some commonly used descriptors follow.

$L_{Aeq,T}$ The most widely applicable unit is the equivalent continuous A-weighted sound pressure level ($L_{Aeq,T}$). It is an energy average and is defined as the level of a notional sound

which (over a defined period of time, T) would deliver the same A-weighted sound energy as the actual fluctuating sound.

L_{den} The day-evening-night noised indicator in decibels (dB) defined by the following formula:

$$L_{den} = 10\lg\frac{1}{24}\left(12\times 10^{\frac{L_{day}}{10}} + 4\times 10^{\frac{L_{evening}}{10}} + 8\times 10^{\frac{L_{night}}{10}}\right)$$

in which:

- L_{day} is the A-weighted long-term average sound level for the daytime period (07.00 to 19.00)
- $L_{evening}$ is the A-weighted long-term average sound for the daytime period (19.00 to 23.00)
- L_{night} is the A-weighted long-term average sound level for the daytime period (23.00 to 07.00)

Ambient noise

Usually expressed using $L_{Aeq,T}$ unit, commonly understood to include all sound sources present at any particular site, regardless of whether they are actually defined as noise.

Background noise

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

Sound transmission In the open air

Most sources of sound can be characterised as a single point in space. The sound energy radiated is proportional to the surface area of a sphere centred on the point. The area of a sphere is proportional to the square of the radius, so the sound energy is inversely proportional to the square of the radius. This is the inverse square law. In decibel terms, every time the distance from a point source is doubled, the sound pressure level is reduced by 6 dB.

Road traffic noise is a notable exception to this rule, as it approximates to a line source, which is represented by the line of the road. The sound energy radiated is inversely proportional to the area of a cylinder centred on the line. In decibel terms, every time the distance from a line source is doubled, the sound pressure level is reduced by 3 dB.

Factors affecting sound transmission In the open air

Reflection

When sound waves encounter a hard surface, such as concrete, brickwork, glass, timber or plasterboard, it is reflected from it. As a result, the sound pressure level measured immediately in front of a building façade is approximately 3 dB higher than it would be in the absence of the façade.

Screening and diffraction

If a solid screen is introduced between a source and receiver, interrupting the sound path, a reduction in sound level is experienced. This reduction is limited, however, by diffraction of the sound energy at the edges of the screen. Screens can provide valuable noise attenuation, however. For example, a timber boarded fence built next to a motorway can reduce noise levels on the land beyond, typically by around 10 dB(A). The best results are obtained when a screen is situated close to the source or close to the receiver.

Meteorological effects

Temperature and wind gradients affect noise transmission, especially over large distances. The wind effects range from increasing the level by typically 2 dB downwind, to reducing it by typically 10 dB upwind – or even more in extreme conditions. Temperature and wind gradients are variable and difficult to predict.

Aviation terms

Air Transport Movements

Air transport movements are landings or take-offs of aircraft engaged on the transport of passengers, cargo or mail on commercial terms. All scheduled movements, including those operated empty, loaded charter and air taxi movements are included.

NPR

Noise preferential route – departure flight ground tracks to be followed by aircraft to minimise noise disturbance on the surrounding population.

Dispersion

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

Start Of Roll

The position on a runway where aircraft commence their take-off runs.

Threshold

The beginning of that portion of the runway usable for landing.

Radar Vectoring

Aircraft are provided by Air Traffic Control with various instructions which result in changes of heading, altitude and speed. The controller affects safe separation from other traffic by use of radar.

Nominal Tracks

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

AAL

Height of aircraft above aerodrome level.

Altitude

Height of aircraft above sea level.

Night Period

The period from 23.00 to 07.00 hours.

Night Quota Period

The period from 23.30 to 06.00 hours.

Noise Classification (QC Value)

This means the noise level band in EPNdB, for take-off or landing, as the case may be, for the aircraft. The bands are identified as QC/0.5, QC/1, QC/2, QC/4. QC/8, QC/16, and are 3 dB wide.

Quota Count

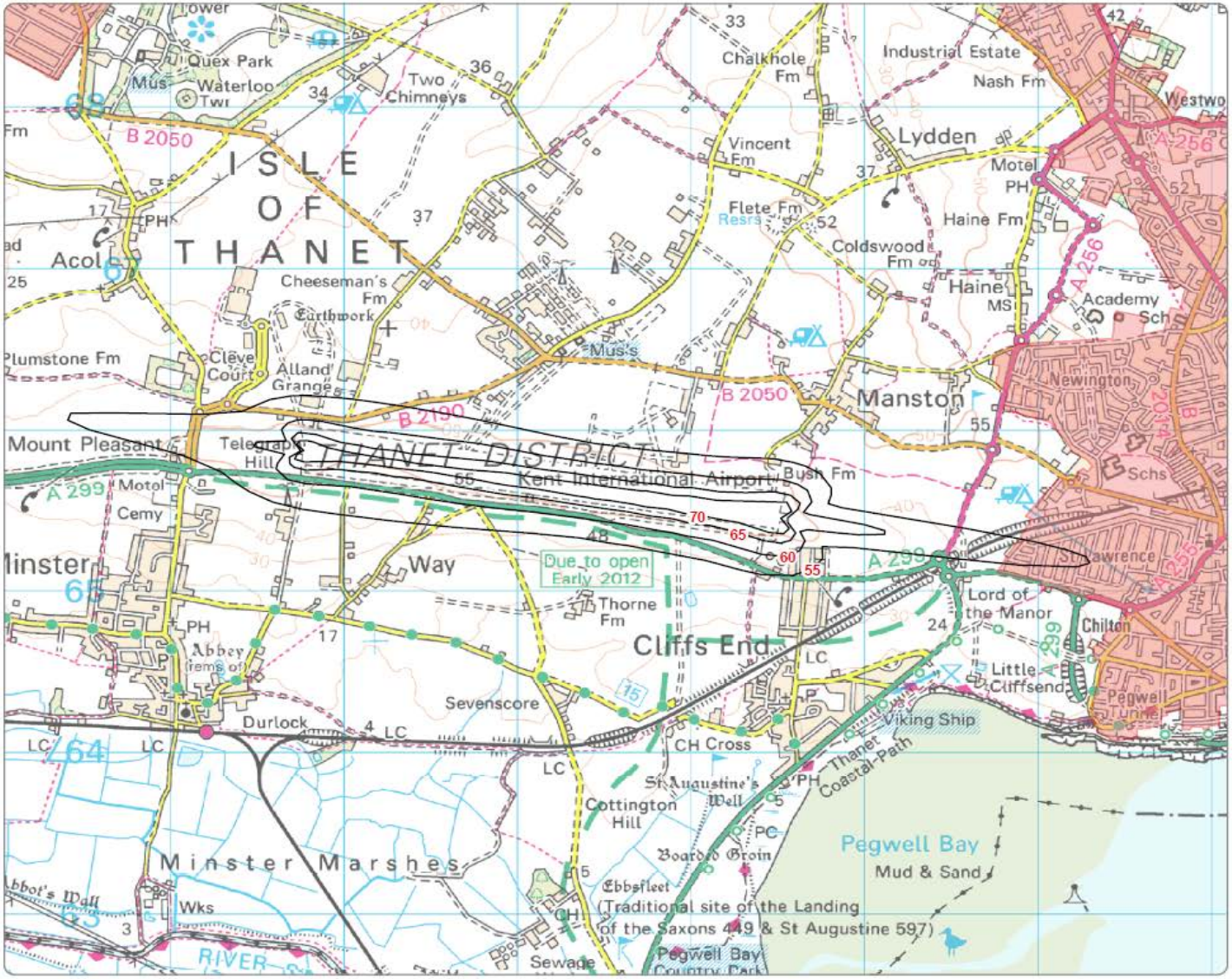
This means the amount of the quota assigned to one take-off or to one landing by an aircraft, this number being related to its noise classification.

Noise Footprint

A noise contour which joins points on the ground which receive the same maximum noise level from the nearby airborne aircraft; often for night studies 90 dB(A) SEL is the level used.

APPENDIX B

Noise Contour Maps



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

Manston Airport (EGMH)

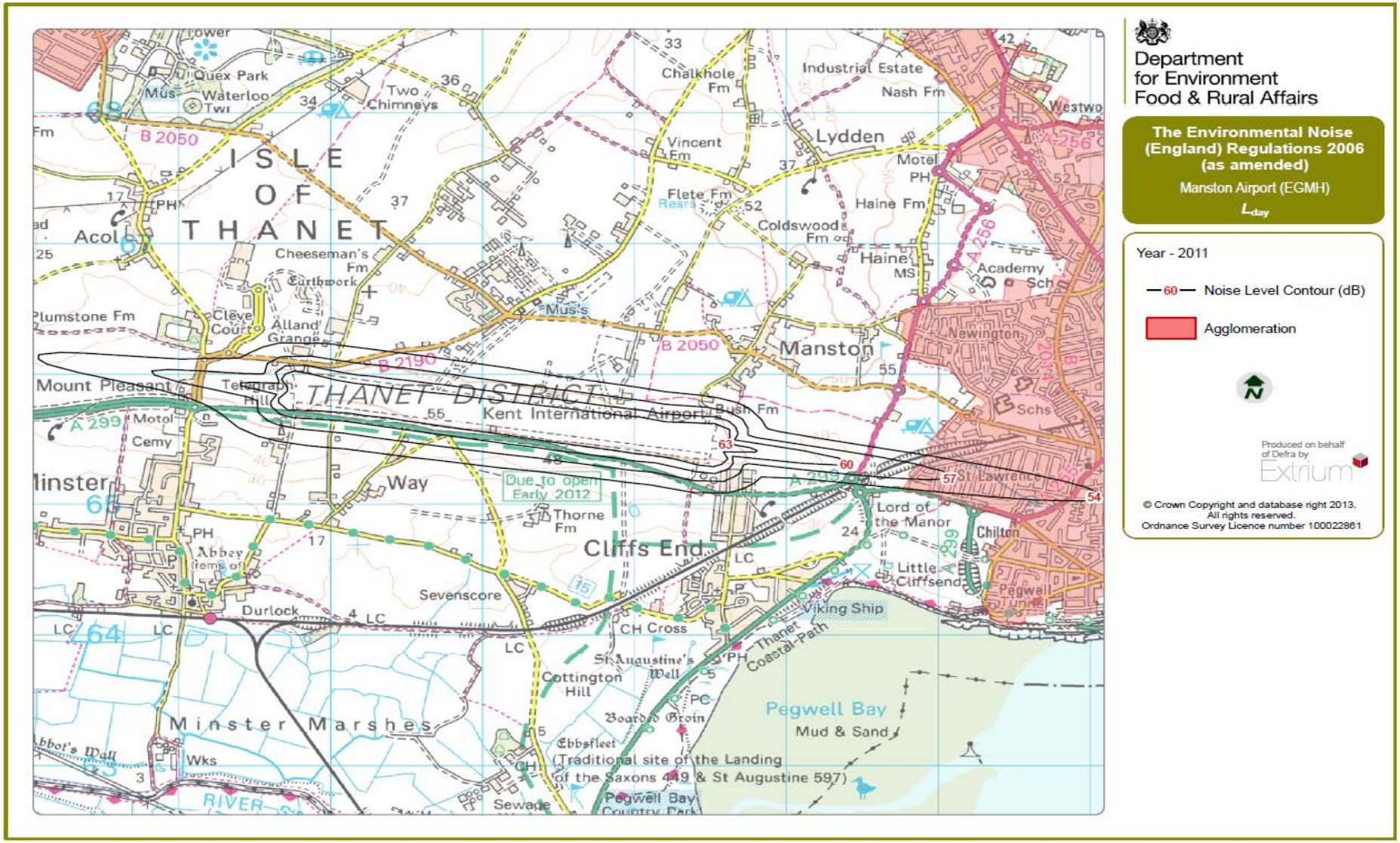
L_{den}

Year - 2011

60 Noise Level Contour (dB)

Agglomeration

Produced on behalf of Defra by Extrium


Department
for Environment
Food & Rural Affairs
The Environmental Noise (England) Regulations 2006 (as amended)
Manston Airport (EGMH)
L_{day}
Year - 2011
60 Noise Level Contour (dB)
Agglomeration
Produced on behalf of Defra by
Extrium
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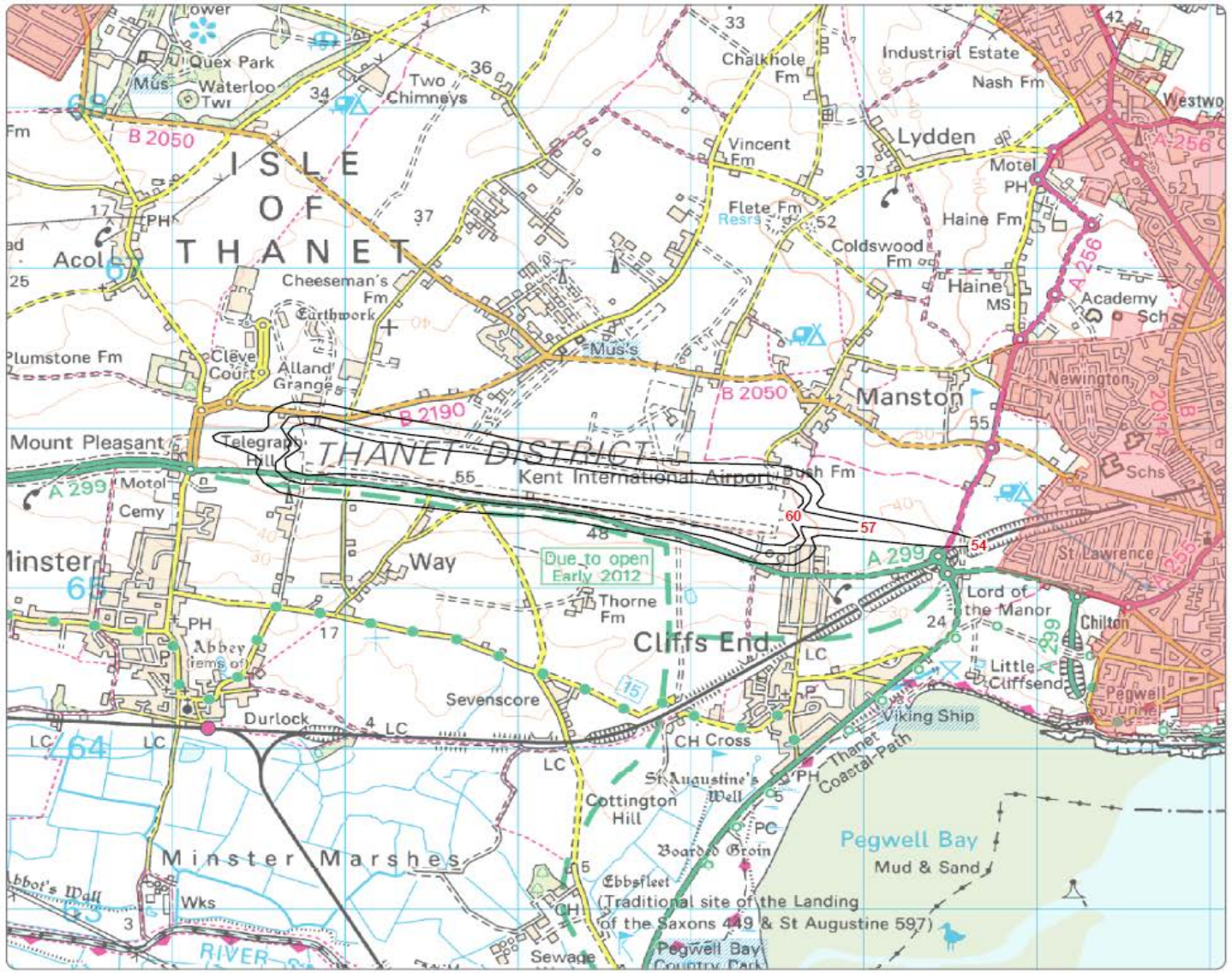
ISLE OF THANET
THANET DISTRICT
Kent International Airport
Manston
Lydden
Cliffs End
Minster Marshes
Pegwell Bay
Mud & Sand
Due to open Early 2012
Viking Ship
Thanet Coastal Path
(Traditional site of the Landing of the Saxons 449 & St Augustine 597)
B 2050
B 2190
A 299
A 256



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

Manston Airport (EGMH)

$L_{evening}$

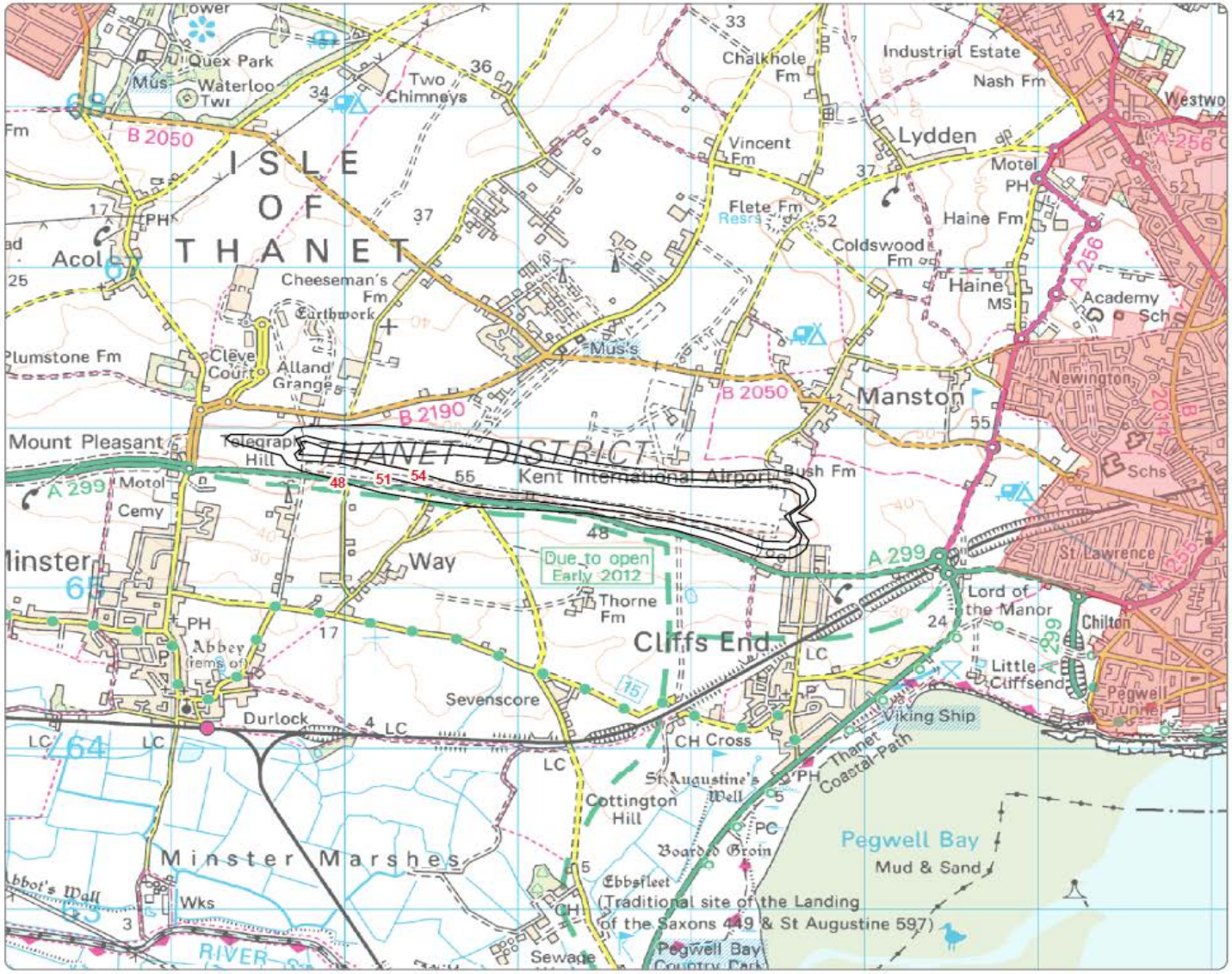
Year - 2011

60 — Noise Level Contour (dB)

Agglomeration

N

Produced on behalf of Defra by Extrium



Department for Environment Food & Rural Affairs

The Environmental Noise (England) Regulations 2006 (as amended)

Manston Airport (EGMH)

L_{night}

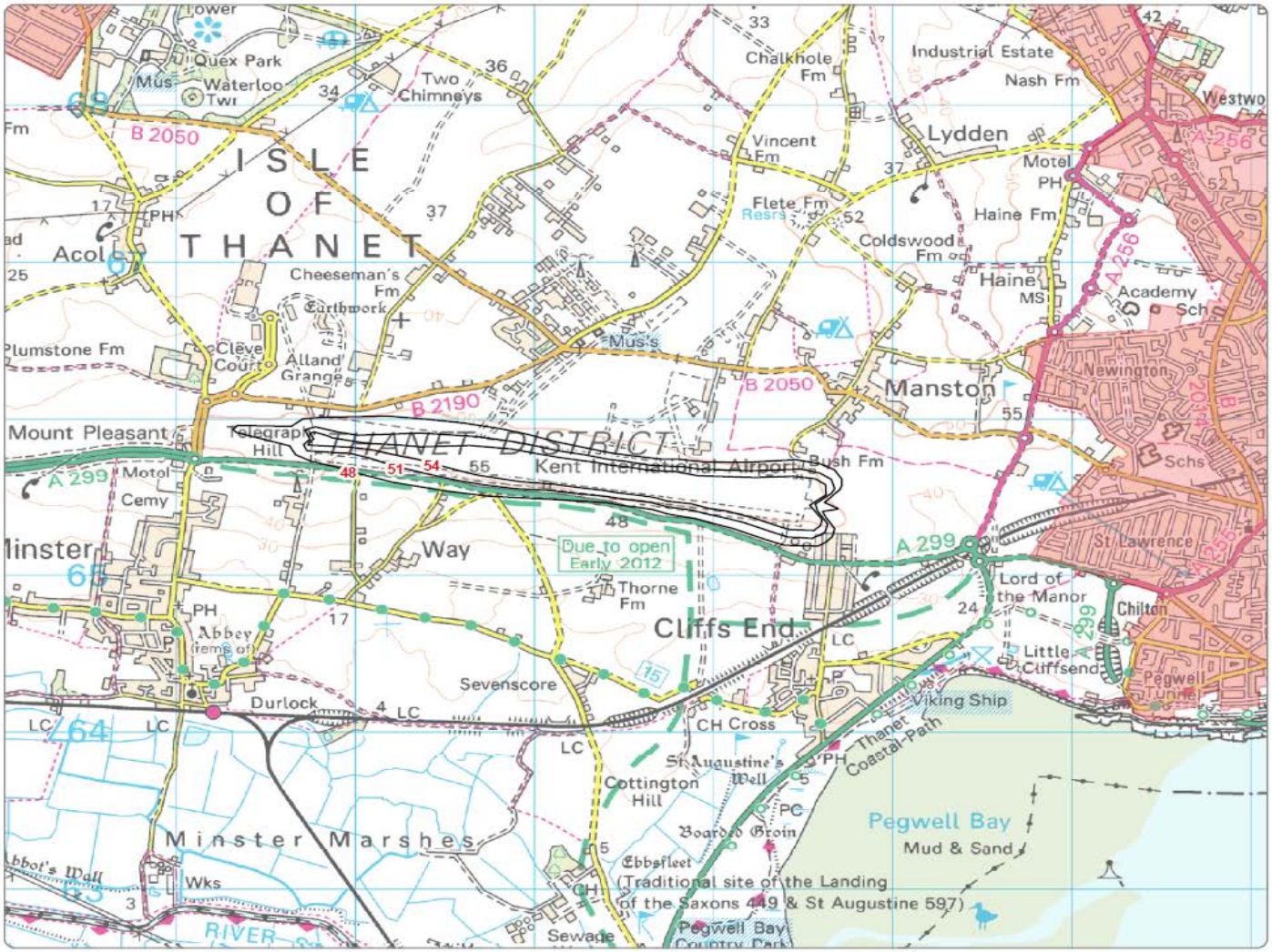
Year - 2011

60 Noise Level Contour (dB)

Agglomeration

N

Produced on behalf of Defra by Extrium


ISLE OF THANET
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L_{night}
Year - 2011
60 Noise Level Contour (dB)
Agglomeration
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APPENDIX C

Legislative Context for Noise Management

C.1 Introduction

This Appendix consists of a description and assessment of the existing national and local framework of control directly and indirectly relating to the management of noise from the Airport.

C.2 Noise legislation

Control of Pollution Act 1974

This Act provides a means for regulating construction noise and vibration. Section 60 sets out the legal powers of a Local Authority to control construction noise. The Local Authority, in acting under this section, would ensure that best practicable means are employed to minimise noise and vibration.

Under Section 61, the person undertaking the construction works may apply for prior consent from the Local Authority over the method by which the works will be carried out and the steps proposed to minimise noise and vibration resulting from the works.

Operating Restrictions Directive 2002/30/EC (March 2002)

Reducing noise pollution from aircraft and improving the noise climate around airports are key objectives of the European Union air transport policy. The current Directive 2002/30/EC[10] of the European Parliament and Council of 26 March 2002 set out procedures and rules for the introduction of noise related operating restrictions to the busiest of the European airports. The purpose of this Directive is to prevent an overall increase in noise levels in areas around major airports. In the Directive, noise management is to be structured around a balanced approach, including solving noise problems on an 'airport-by-airport' basis and requiring the careful assessment of four key elements:

1. reduction of aeroplane noise at source;
2. land-use planning and management measures;
3. noise abatement operational procedures; and
4. local operating restrictions relating to noise problems.

In the UK, this Directive was implemented as the Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003. London City Airport became a competent authority under the Regulations to apply its own noise related restrictions at this time. As a competent authority, it

10. Directive 2002/30/EC of the European Parliament and of the Council on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Community Airports.

continues to apply and strives to enhance a strict regime of noise monitoring and management and produced strategic noise maps and a noise action plan as required by legislation relating to this European Directive.

Better Airports Package (December 2011)

The principles of the balanced approach were recently proposed to be extended to all airports. On 1st December 2011 the European Commission launched the Better Airports Package including a proposal to repeal Directive 2002/30/EC and further harmonise and strengthen EU rules on aircraft noise management and assessment. The European Parliament voted further on this package on 12th December 2012 and currently it has been referred back to the Parliamentary Committee for further consideration. The Commission's proposals must be approved by the European Parliament and Member State Governments by the "co-decision" procedure, before being adopted.

One of the stated proposals of the package is to allow airports to 'decouple' the growth in air traffic from the level of noise nuisance suffered by local residents, allowing improved noise protection at the same time as preserving growth and the economic contribution which it makes.

Environmental Noise Directive 2002/49/EC (June 2002)

The Environmental Noise Directive (END) concerning the assessment and management of environmental noise from transport, came into effect in June 2002[11]. Its aim was to define a common approach across the European Union with the intention of avoiding, preventing or reducing on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. This involves:

- informing the public about environmental noise and its effects;
- preparation of strategic noise maps for large urban areas ('agglomerations'), major roads, major railways and major airports as defined in the END; and,
- preparation of action plans based on the results of the noise mapping exercise.

Noise maps and noise action plans aim to manage and reduce environmental noise where necessary, and to preserve environmental noise quality where it is good. Directive 2002/49/EC was implemented in the UK by the Environmental Noise (England) Regulations 2006 (and as amended by the Environmental Noise (England) (Amendment) Regulations 2008, the

11. Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise - Declaration by the Commission in the Conciliation Committee on the Directive relating to the assessment and management of environmental noise.

Environmental Noise (England) (Amendment) Regulations 2009, and the Environmental Noise (England) (Amendment) Regulations 2010).

An update to the guidance for the production of Noise Action Plans was issued July 2013[2].

C.3 National Planning Policies

Planning Policy Guidance 24 (September 1994)

National planning policy guidance PPG 24 "Planning and Noise"[12] was withdrawn in March 2012. It dealt with new housing development in relation to existing noise generating development and also developments which generate noise, including measures to alleviate change to development such as airports. It is replaced by the National Planning Policy Framework of March 2012 (see below), which sets out the Government's planning policies for England. However, because PPG24 is still referred to in local planning guidance, it is likely to remain relevant within the timescale of the present application.

The guidance given in PPG 24 has historically been considered by Local Authorities in actions and decisions relating to planning applications for dwellings near airports. Similar guidance is also available for roads and railways which, for some of the regeneration and development sites, may be the most significant source of noise and so determine the planning implications.

12. Planning Policy Guidance PPG 24 Planning and Noise, 1994, Department of the Environment.

dB $L_{Aeq,16h}$	Guidance/Experience with regard to aircraft noise (daytime)
< 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. PPG 24 Category A.
57 – 66	Noise should be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise. PPG 24 Category B.
66 – 72	Planning permission for housing should not normally be granted. Where it is considered that planning permission should be given, for example because there are no alternative quieter sites available, conditions should be imposed to ensure a commensurate level of protection against noise. PPG 24 Category C.
> 72	Planning permission for housing should normally be refused. PPG 24 Category D.

Table 3: PPG24 Guidance with regard to aircraft noise (daytime)

White Paper – Future of Air Transport (December 2003)

The 2003 Air Transport White Paper - 'The Future of Air Transport'[9] set out a strategic framework for the next thirty years. It recognised the benefits of expansion in air travel, and stated the case for development of further airport capacity including steps to provide a corresponding increase in airspace capacity.

This document has recently been superseded by the publication of the Government's 2013 Aviation Policy Framework (see below).

Aerodromes (Noise Restrictions) Regulations (August 2003)

Directive 2002/30/EC was implemented as the Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003 (SI 2003/1742) which came into force on 6th August 2003. The Regulations apply to civil airports in the EU with more than 50,000 movements a year by civil subsonic jet aircraft with a maximum take-off mass of 34,000 kg or more, or with more than 19 passenger seats.

Where it is proposed to introduce noise-related operating restrictions, the competent authority (the Airport itself) is required to undertake a detailed assessment of the noise

situation in the locality, and the full range of possible measures to address any noise problems identified.

An example of this is the recent Night Noise Flying Policy consultation work undertaken by Manston Airport, supported by a number of detailed independent studies, including noise.

Environmental Noise Regulations (October 2006)

A transposition of EC/2002/49/EC was laid before Parliament in September 2006 as the Environmental Noise (England) Regulations 2006 (SI 2006/2238). These Regulations came into force on 1st October 2006[1].

As Manston Airport exposes an agglomeration with a population of 100,000 persons to noise levels in excess of 55 dB(A) L_{den} or 50 dB(A) L_{night}, it is required to produce noise maps on a rolling (5 year) basis. Noise maps for MA were issued to Defra in 2012 and are awaiting publication.

The Regulations also require relevant airports to undertake an action planning process and produce a Noise Action Plan (NAP).

Noise Policy Statement for England (March 2010)

The Noise Policy Statement for England (NPSE) provides the framework for noise management decisions to be made that ensure noise levels do not place an unacceptable burden on society.

The stated aims of the Noise Policy Statement for England are to:

- Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development
- Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development; and
- Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

National Planning Policy Framework (NPPF) (March 2012)

The National Planning Policy Framework (NPPF) published 27th March 2012, sets out the Government's planning policies for England and how these are expected to be applied. It is designed to make the planning system less complex and more accessible, to protect the environment and to promote sustainable growth.

The NPPF consolidates all policy statements, circulars and guidance documents into a single, simpler framework and replaces the planning guidance documents, such as PPG 24, Planning and Noise (1994), which is cancelled by the NPPF.

Government's current planning policy concerning noise is embodied in the National Planning Policy Framework (NPPF), and more specifically the Noise Policy Statement for England

The aim of planning policies and decisions with respect to noise is addressed in paragraph 123 of the NPPF:

> *"avoid noise from giving rise to significant adverse impacts[13] on health and quality of life as a result of new development;*
>
> *mitigate and reduce to a minimum other adverse impacts[8] on health and quality of life arising from noise from new development, including through the use of conditions:*
>
> *recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established[14;] and*
>
> *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."*

The above policy refers to "significant adverse impacts" and "other adverse impacts" which are not defined numerically in the case of aviation noise although reference is made to further research being underway in this regard in The Noise Policy Statement for England.

Aviation Policy Framework (March 2013)

The Aviation Policy Framework (APF) was published this year in March by the Department for Transport (DfT). This followed a public consultation which commenced in March 2011 following the issue of a Scoping Report[15], which generated over 600 responses, and the

13. Refer to Explanatory Note to Noise Policy Statement for England (Defra)
14. Subject to the provisions of the Environmental Protection Act 1990 and other relevant law.
15. Developing a sustainable framework for UK aviation: Scoping Document, DfT, March 2011

publication of a Draft Aviation Policy Framework for further consultation in July 2012, generating almost a further 500 responses. The APF replaces the 2003 Future of Air Transport White Paper in conjunction with relevant policies and any decisions which Government may take in response to recommendations made by the Airports Commission which is due to issue its final report and recommendations in 2015.

The APF defines the Government's objectives and policies on the impacts of aviation in the UK and so sets out the parameters within which the Airports Commission will work.

On managing aviation's environmental impacts, and specifically noise, it states in paragraph 3.12 that the Government's overall objective on noise is to:

> *"limit and where possible reduce the number of people in the UK significantly affected by aircraft noise".*

It advises in paragraph 17 of the Executive Summary that the APF:

> *"makes clear that the acceptability of growth in aviation depends to a large extent on the industry continuing to tackle its noise impact and confirms that the Government expects the industry at all levels to continue to address noise". recognising that "the manufacturing industry across Europe has committed to ambitious long-term goals to reduce aviation emissions to one-quarter of 2000 levels by 2050 and to halve perceived aviation noise".*

The APF goes on to state in paragraph 17 that the Government:

> *"want to incentivise noise reduction and mitigation, and we also want to encourage better engagement between airports and local communities and greater transparency to facilitate an informed debate".*

Chapter 3, paragraph 3.3 of the APF on noise, states that the Government's intention is:

> *"to strike a fair balance between the negative impacts of noise (on health, amenity (quality of life) and productivity) and the positive economic impacts of flights. As a general principle, the Government therefore expects that future growth in aviation should ensure that benefits are shared between the aviation industry and local communities. This means that the industry must continue to reduce and mitigate noise as airport capacity grows. As noise levels fall with technology improvements, the aviation industry should be expected to share the benefits from these improvements."*

For noise control at airports not currently designated for noise management purposes, it states in paragraph 3.11 that:

"the Government would like appropriate controls to be agreed locally. For example, local authorities will want to consider whether to set such controls as a planning condition on new airport development. Noise controls at the designated airports will provide examples for other airports to consider as appropriate. Airports should ensure that the effectiveness of their measures to tackle noise is reviewed on a regular basis. For airports required to produce Noise Action Plans under EU legislation, this should be done at least as often as the five-yearly review of these plans. Noise Action Plans and any other noise measures agreed locally should be proportionate to actual noise impacts".

C.4 Regional planning policies

Kent County Council

No applicable noise-related policies.

Medway County Council

No applicable noise-related policies.

C.5 Local planning policies

Thanet District Council – Section 106

Manston Airport is located within Thanet District Council. The Airport has a planning agreement (a 'Section 106 agreement') with the District Council from August 2000 that requires the Airport to have in place policies to manage and control:

- Night-time flying
- Preferred departure runway
- Noise abatement routes
- Noise monitoring
- Engine testing.

APPENDIX D

END Noise Mapping Results

D.1 Introduction

MA prepared Noise Maps under the Environmental Noise (England) Regulations 2006 in November 2012. This formed part of a requirement for the Strategic Noise Maps under the Environmental Noise Directive (END).

Noise Maps were prepared based on actual aircraft movements during the calendar year of 2011, and used the prediction methodology Integrated Noise Model (INM) Version 7.0c. The maps were presented as noise contours, and were assessed for a number of noise parameters relating to the average noise level in decibels over specific periods of time.

The noise metrics described in were used in accordance with the the assessment criteria within the END.

Parameter	Period (hrs)	No. hours
L_{den}	0700 – 0700	24
L_{day}	0700 – 1900	12
$L_{evening}$	1900 – 2300	4
$L_{Aeq,16h}$	0700 – 2300	16
L_{night}	2300 - 0700	8

Table 4: END contouring metrics

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

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

Similar to the $L_{Aeq,16h}$ parameter is the L_{den} parameter. The key difference however is that the L_{den} parameter gives more significance to noise events that occur during the evening (1900 – 2300 hours) and night-time (2300 – 0700 hours) periods.

The Government has not yet published any guidance on how to interpret noise contours created in terms of L_{den}. Based on recent research studies, the European Commission is, however, working to produce a relationship between the L_{den} parameter and community response and various guidance documents are available on this subject.(ref?)

Area contained in each air noise contour band

Contour Level (dB)	Area of Air Noise Contours (km^2)				
	L_{den}	L_{day}	$L_{evening}$	$L_{Aeq,16h}$	L_{night}
48	-	-	-	-	1.2
51	-	-	-	-	0.8
54	-	3.4	1.8	3.0	0.5
55	2.7	-	-	-	-
57	-	2.0	1.1	1.8	0.3
60	1.2	1.2	0.8	1.1	0.2
63	-	0.8	0.5	0.7	0.1
65	0.6	-	-	-	-
66	-	0.5	0.3	0.5	0.0
69	-	0.3	0.2	0.3	-
70	0.3	-	-	-	-
75	0.1	-	-	-	-
48	-	-	-	-	1.2

Table 5: Area within noise contour bands

D.2 Dwellings and population in each noise contour band

Table 6 to Table 10 give estimates of the number of dwellings and people exposed to different noise levels for each parameter. Population and dwelling exposure statistics have been developed by Defra[16], and have been rounded as follows:

- Dwellings have been rounded to the nearest 50, except where the number of dwellings is less than 50, where the total has been shown as '<50'
- Population has been rounded to the nearest 100, except where the population is less than 100, where the total has been shown as '<100'

16. Department for Environment Food and Rural Affairs (Defra), 2013, Airport Noise Action Planning Data Pack Manston Airport (EGMH), Department for Environment, Food and Rural Affairs.

Contour Level (dB L_{den})	Number of dwellings	Number of people
≥ 55	200	500
≥ 60	< 100	< 100
≥ 65	0	0
≥ 70	0	0
≥ 75	0	0

Table 6: L_{den}, estimated total number of dwellings and population above various noise levels

Contour Level (dB L_{day})	Number of dwellings	Number of people
≥ 54	700	1400
≥ 57	< 100	200
≥ 60	< 100	< 100
≥ 63	0	0
≥ 66	0	0
≥ 69	0	0

Table 7: L_{day}, estimated total number of dwellings and population above various noise levels

Contour Level (dB $L_{evening}$)	Number of dwellings	Number of people
≥ 54	< 100	< 100
≥ 57	< 100	< 100
≥ 60	0	0
≥ 63	0	0
≥ 66	0	0
≥ 69	0	0

Table 8: $L_{evening}$, estimated total number of dwellings and population above various noise levels

Contour Level (dB $L_{Aeq,16h}$)	Number of dwellings	Number of people
≥ 54	500	1000
≥ 57	< 100	< 100
≥ 60	0	0
≥ 63	0	0
≥ 66	0	0
≥ 69	0	0

Table 9: $L_{Aeq,16h}$, estimated total number of dwellings and population above various noise levels

Contour Level (dB L_{night})	Number of dwellings	Number of people
≥ 48	< 100	< 100
≥ 51	< 100	< 100
≥ 54	0	0
≥ 57	0	0
≥ 60	0	0
≥ 63	0	0
≥ 66	0	0

Table 10: L_{night}, estimated total number of dwellings and population above various noise levels

D.3 Summary of END Strategic Noise Mapping

Guidance on how to determine the acceptability of noise levels has been provided to airport operators by Defra[2] which states that account should be taken of current legislation and guidance as well as any relevant local planning conditions. These are normally given in terms of dB $L_{Aeq,16h}$ for the assessment of aviation noise impact.

The 57 dB $L_{Aeq,16h}$ contour is the level which the Government, through the Aviation Policy Framework, confirms as the point at which there is an onset of significant community annoyance.

To assist in establishing whether the current noise impact of an airport is acceptable, the Aviation Policy Framework published in March 2013 states:-

> *"The Government continues to expect airport operators to offer households exposed to levels of noise of 69 dB $L_{Aeq,16h}$ or more, assistance with the costs of moving."*

It also states that

> *"The Government also expects airport operators to offer acoustic insulation to noise-sensitive buildings, such as schools and hospitals, exposed to levels of noise of 63 dB $L_{Aeq,16h}$ or more. Where acoustic insulation cannot provide an appropriate or cost-effective solution, alternative mitigation measures should be offered".*

In the case of dwellings the APF states:

> *"If no such schemes already exist, airport operators should consider financial assistance towards acoustic insulation for households. Where compensation schemes have been in place for many years and there are few properties still eligible for compensation, airport operators should review their schemes to ensure they remain reasonable and proportionate."*

In keeping with Government guidance, many operators of major airports in the UK operate schemes offering financial assistance towards acoustic insulation for households when they become exposed to levels of noise in the region of around 63 dB to 66 dB $L_{Aeq,16h}$ during the day. In the case of night-time noise, some schemes have been developed around the 55dB to 57 dB $L_{Aeq,8h}$ (approximately equivalent to L_{night}) during the night.

At Manston, the 57 dB $L_{Aeq,16h}$ noise contour for current operations extends to the edge of St Lawrence to the east and Mount Pleasant to the west, encompassing less than 100 dwellings.

There are no dwellings or other noise sensitive buildings located within the 60 dB $L_{Aeq,16h}$ noise contour.

There are fewer than 100 dwellings and less than 100 people located within the 48 dB L_{night} with a similar amount located within the 51 dB L_{night} noise contour.

MA offers a comprehensive complaint handling system to ensure that any complaints from the local community are addressed and responses provided within a reasonable timeframe. In addition, under the terms of the Section 106 Agreement, MA produce annual noise contours which provide a regular update on the extent to which noise is affecting the local community, providing the opportunity for any noise abatement measures to be considered and deployed in advance of impacts arising.

Regular meetings are held with the Consultative Committee to address any noise related matters and agree the measures to be taken to address the issues as necessary.

On the basis of the above, it is concluded that the current noise impact of operations at MA lie within acceptable limits. The measures set out in this Noise Action Plan will assist in continuing to monitor the impacts of noise around the community to enable noise control measures to be introduced where necessary to comply with Government guidance and to meet the requirements of the Environmental Noise (England) Regulations 2006.

APPENDIX E

Public Consultation- TBC

APPENDIX F

Consultation Remarks and Airport Responses - TBC

APPENDIX G

Table of Compliance with END

Table 11 sets out the contents of MA's NAP, and how it meets the minimum requirements as given in Annex V of the END.

[section and page numbers for action plan will be added following consultation]

Section	Contents	Minimum Requirement Met	Page No.
Section X - Introduction	An introduction to the NAP and an outline of its purpose and scope. A description of the airport and its operations.	The authority responsible; A description of the airport and any other noise sources taken into account; the local context.	X
Section X - Noise management	Details of the airport's current and future noise control measures.	Any limit values in place; any noise reduction measures in force and any projects in preparation; actions intended in the next 5 years	X
Section X - Assessment of noise management measures	An assessment of current noise levels compared against legal guidelines and requirements, and assesses any problems and situations which require improvement.	Identification of problems and situations that need to be resolved.	X
Section X - Evaluation and implementation	A description of how the measures described in the NAP will be implemented and monitored.	Provisions for evaluating the implementation and results of the NAP.	X
Section X - Long term strategy	MA Master Plan	The airport's long term noise strategy	X
Section X - Conclusions	A summary of the NAP's findings regarding the adequacy of noise control at the airport.	Summary conclusions.	X
Appendix X – Noise contour maps	2011 Strategic Noise Maps	Summary of noise mapping.	X

Section	Contents	Minimum Requirement Met	Page No.
Appendix X - Legislative context for noise management	As assessment of the existing European, national and local legal structures for noise control which apply to the airport.	Context of European, regional and local legislation and development frameworks.	X
Appendix X – END noise mapping results	A summary of the 2011 Strategic Noise Map results and evaluation of the estimated number of people exposed to noise.	A summary of the results of noise mapping; an evaluation of the estimated number of people exposed to noise.	X
Appendix X – Public consultation	Details of the Airport's public consultation on the draft NAP and list of consultees.	A record of any public consultations organised in accordance with Article 8(7)	X
Appendix X – Remarks and Airport's responses	Publication of comments on the draft NAP and the Airport's responses.	A record of any public consultations organised in accordance with Article 8(7)	X
Appendix X – Table of compliance with END	A summary table of the NAP contents against which the requirements of the END are presented.	Requirement for the NAP to meet the minimum requirements of Annex V of the END	X

Table 11: NAP content and minimum END requirements