

## **The Development of Noise Action Plans in England**

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### **ABSTRACT**

Directive 2002/49/EC (END)<sup>1</sup> relating to the assessment and management of environmental noise is being implemented in England through the Environmental Noise (England) Regulations 2006, as amended (the Regulations)<sup>2</sup>. This paper will describe the process being followed in England to implement the action planning requirements of the Directive concentrating, in particular, on the policy for identifying Important Areas, the interaction with current noise control regulations and strategies, and the engagement with the public and other stakeholders.

### **1. INTRODUCTION**

It is over seven years since Directive 2002/49/EC came into effect. Its overall aim is to manage the effects of environmental noise, including noise reduction if necessary. After the completion of the noise mapping in 2007, the next stage of the process is the development of noise action plans.

The scope of the first round of noise mapping in England covered 23 agglomerations as well as 14,000 km of major roads; 2,500 km of major railway and a total of 18 airports. Around 30% of the English land area was mapped covering some 32 million people (just under 60% of the population).

The Regulations nominated the Secretary of State for Environment, Food and Rural Affairs (Defra) as the Competent Authority for preparing the action plans for major roads, major railways and the agglomerations. The relevant airport operator is the competent authority for preparing the action plans for their airports.

This paper describes the approach adopted in preparing the draft noise action plans.

### **2. PRINCIPLES**

Several principles have evolved as a basis for the noise action planning.

Firstly, the management of noise from road, rail, aircraft and industrial sources has been managed in England for many years. Over 45 years ago, Sir Alan Wilson's Committee on the Problem of Noise<sup>3</sup> provided a comprehensive report from which flowed a range of guidance on noise management. Legislation has been in existence for around 35 years dealing with road traffic, aircraft and industrial noise. The various international and European legislation limiting the noise emitted by individual vehicles and aircraft has been adopted, and for over 10 years legislation has existed dealing with noise from railways. In addition, for 35 years, there has been planning guidance that required noise to be taken into account when proposing new noise

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sensitive or new noise producing development. Consequently, given this background, it was decided that the noise action plans should reflect as far as possible the existing legislation and guidance that exists for dealing with environmental noise in England.

Secondly, whilst it was recognised that some felt that the purpose of the END was to encourage or empower local authorities to manage noise, it became clear that such an approach would not be straightforward to implement in England. For the noise mapping, England adopted a broadly centralised approach and this decision was vindicated by the fact that all the mapping was completed and fully reported to the European Commission (EC) and the European Environment Agency (EEA) on time. A similar approach has been adopted for noise action planning.

Thirdly, whilst the END apparently makes a distinction between roads and railways outside agglomerations and those within agglomerations, it was decided that the same principle would apply to action planning throughout the country, particularly with regard to the identification of Important Areas affected by road and rail noise.

Fourthly, it was recognised that were the END dealt with in isolation, inappropriate noise actions might be promulgated that did not take account of the value to society of the source creating the noise. For example, the noise from one of England's main motorways, the M25, could be minimised by simply closing the motorway. But clearly, that would have a severe effect on commerce and on people's ability to travel. Furthermore, it was recognised that noise is an inevitable consequence of a mature and vibrant society meaning that a balance has to be struck. It was, therefore, decided that END noise action plans would be developed to assist the management of environmental noise in the context of sustainable development. This reflects the policy that is underlying an emerging national noise strategy which seeks to promote good health and a good quality of life through the management of noise within the context of sustainable development.

Fifthly, using the polluter pays principle, the relevant noise making authority would be responsible for investigating the identified Important Areas and determining what further measures, if any, might be carried out to improve the management of noise (in the context of sustainable development).

Finally, it was decided that the management of industrial noise through the development control process and the relevant legislation related to the Pollution Permitting and Control and Environmental Permitting as well as the statutory nuisance regime already provide sufficient control mechanisms. Consequently, it was decided that no further action is required under the END.

### **3 Identification of Important Areas**

Whilst the END required that results from the noise mapping for  $L_{den}$  and  $L_{night}$  had to be reported to the EC and EEA, the END allowed the production of supplementary noise indicators. In determining the Important Areas, it was felt that not enough was known about the meaning of noise mapping results in terms of  $L_{den}$  (despite the EC Position Paper on Dose response relationships between transportation noise and annoyance). With regard to the night period, various methodological limitations meant that the  $L_{night}$  results were estimated rather than derived directly. Consequently, it was felt that the basic  $L_{night}$  results were not robust enough to act as a basis for the production of action plans. Instead, for road traffic, Important Areas were identified in terms of the  $L_{A10,18h}$  indicator, which not only is the indicator in which the mapping methodology used in England produced its results, but is also the

basis for the criteria used to determine compensation under the Noise Insulation Regulations 1975 (as amended 1988)<sup>4</sup>.

For railways, the Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996<sup>5</sup> include in their definition of criteria for eligibility a noise level expressed as  $L_{Aeq,18h}$ . Consequently, for railway noise, it was decided to use the  $L_{Aeq,18h}$  indicator as the basis for identifying Important Areas to be investigated for potential action.

For airports, the overall noise impact in England has been expressed for many years in terms of the  $L_{Aeq,16h}$  indicator for an average summer day. In guidance provided to airport operators, the annual average version of this indicator has been used for the initial consideration of Important Areas arising from aircraft noise.

From the results of the noise mapping for road and rail traffic, the impact in each of the 23 agglomerations, and the major roads and railways outside agglomerations were categorised in 1 dB(A) bands. The associated number of dwellings and population were also determined. From these data, it was possible to form a view regarding what might constitute an important area.

The existing noise insulation regulations for both roads and railways set levels at which, in relation to new or improved highways or new or altered railways, there is eligibility for compensation for dwellings in the form of additional sound insulation and alternative ventilation (subject to other conditions being met). These levels are:

Road Traffic	68 dB, $L_{A10,18h}$
Rail Traffic	68 dB, $L_{Aeq,18h}$

Both these levels refer to a location one metre from the façade of the dwelling (including the reflection from that façade).

These values could be used as the identification of Important Areas. However, on examination of the mapping results it was found that these thresholds would correspond to the following number of people being located in Important Areas (roughly)

Road Traffic	4.14 million
Rail Traffic	101,000

Given that the END operates in a 5 yearly cycle, it would clearly not be practical to address all these locations in that time period. Therefore, an alternative was needed.

Consideration was given to identifying as Important Areas, the top 1% in each agglomeration and the top 1% (separately) affected by major roads and railways outside agglomerations. This approach produced the following figures:

Road Traffic	362,000
Rail Traffic	10,800

These numbers are more manageable but still large. Consequently, it was felt that further prioritisation was needed. Thus, through sensitivity analysis on what was considered manageable, a sub-category of Important Areas, called First Priority Locations (FPLs) were identified as follows:

#### Road Traffic:

those locations where the  $L_{A10,18h}$  is at least 76 dB according to the results of the strategic noise mapping.

#### Rail Traffic:

those locations where the  $L_{Aeq,18h}$  is at least 73 dB according to the results of the strategic noise mapping.

The corresponding numbers of people associated with the FPLs are:

Road Traffic	122,500
Rail Traffic	2,100

Whilst in terms of the quantity, this approach will still be a challenge, it nonetheless means that those locations where people live and who, according to the results of the strategic noise mapping, are exposed to the highest levels of noise from road and rail sources will be investigated to see what further noise management measures might be implemented.

#### Airports

For airports, the current existing key document in England is The Future of Air Transport, published in December 2003 and is known as the Air Transport White Paper (ATWP)<sup>6</sup>. The ATWP required airport operators with immediate effect to offer households subject to noise of  $L_{Aeq,16h}$  of 69 dB or more assistance with the costs of relocating. Furthermore, with regard to mitigation when any capacity enhancement proposals are brought forward, the ATWP expects airport operators to offer to purchase those properties experiencing noise at  $L_{Aeq,16h}$  of 69 dB or more, with an increase in noise of 3 dB or more.

Based on this precedent, the guidance produced for Airport Operators regarding the development of their action plans states that, as a first priority, Airport Operators should consider what further measures should be taken in areas shown by the noise maps to have residential premises exposed to more than 69 dB  $L_{Aeq,16h}$ .

### **4. The Proposed Process for Roads and Railways**

There was considerable stakeholder liaison whilst the draft action plans were being developed. This included various Government departments, representatives of those authorities responsible for road and rail transport and also representatives of local authorities. An informal public consultation took place whereby the developing principles of the noise action plans for major roads, major railways and agglomerations were publicised and various useful comments were received.

The draft action plans for England were published for consultation on 15<sup>th</sup> July 2009, and comments must be submitted by 4<sup>th</sup> November 2009<sup>7</sup>. It is recognised that this is later than the prescribed dates in the END. However, it soon became abundantly clear that for those countries like England that had large areas to be addressed under action planning, the time allowed in the END between the completion of the mapping and the adoption of action plans was too short. The EC are aware of our position and seem to appreciate that, although a little late, England are attempting to implement the measures in the END in a comprehensive and effective manner. (It is understood that many other Member States are also finding the timetable challenging).

The main features of the proposed process for the noise action plans for road and railway noise are:

As the competent authority, Defra will work closely with the relevant noise making authorities, which are:

- For road traffic sources – the Highways Agency and the relevant local highway authorities; and
- For railway sources – the relevant rail authorities, which for the purposes of noise action planning are the Department for Transport and the Office of Rail Regulation. In developing plans for managing rail related noise, the relevant rail authorities will consult and be advised by a cross-industry group. This group will be facilitated by the Rail Safety and Standards Board (RSSB) and involve Network Rail, the Association of Train Operating Companies (ATOC), train owners, the rail supply industry and passenger and freight operators.

Those noise making authorities will be required to investigate initially the FPLs of the identified Important Areas and consider what further noise management measures, if any, might be implemented within the context of sustainable development. These authorities already have a duty to consider noise management with regard to the sources for which they have responsibility, and implementing these noise action plans is seen as simply part of that duty.

In addition, Defra will liaise with the relevant local authorities in whose area the identified Important Areas and FPLs are located. This will enable those Councils to participate in the action planning process, liaising, as appropriate, with the relevant noise making authorities. It is anticipated that this local council involvement would occur at a minimal extra burden. Reviewing proposals by third parties is part of the everyday function of local councils. This approach, therefore, means that they have the ability to become involved but not in the form that would give rise to a specific additional burden.

Once the noise making authorities have considered possible noise management measures in Important Areas, which in the first instance will be the FPLs, they will carry out some focused consultation on their conclusions before finalising their decisions. There would be on-going liaison with Defra who will monitor the outcome of this work. Any new measures identified will then be implemented either immediately or included in their forward work programme.

Ultimately, Defra will formally adopt the action plans for all sources and will also determine, for major roads, major railways and agglomerations whether the conclusions drawn by the various noise making authorities are appropriate.

## **5 CONCLUSIONS**

This paper has described the process that has been undertaken in England to develop noise action plans under the terms of the END and corresponding legislation. It has focused on Important Areas and described the rationale and provided detail about how the Important Areas were identified. The paper has also described the process that is to be followed should the noise action plans be adopted in their current form.

As indicated above, environmental noise in England has been managed for many years. The approach proposed in the draft noise action plans has aimed to reflect what has already occurred and is occurring, and also to take account of the existing duties and powers available to the various authorities.

## **ACKNOWLEDGEMENTS**

The development of the noise action plans in England has been a team effort. These include the officials in the noise and nuisance team at Defra, in particular Yvette Bosworth and Tim Dice; my colleagues at Bureau Veritas, in particular, my co-author, Colin Grimwood, and colleagues at Extrium limited, in particular Nigel Jones and Matthew Burdett.

This paper has been produced with the kind permission of Defra.

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