

DEMONSTRATION OF BEST AVAILABLE TECHNIQUES AND APPROPRIATE MEASURES FOR THE PERMITTING AND REGULATION OF INDUSTRY

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The Noise Policy Statement for England (NPSE), published by Defra in March 2010, describes a ‘policy vision to facilitate decisions regarding what is an acceptable noise burden to place on society’. This paper will discuss the aims of the NPSE and some less obvious implications of the policy for industry regulated under an Environmental Permit administered by the Environment Agency England. This paper will also discuss the requirement for an operator to demonstrate Best Available Techniques and Appropriate Measures in a permit application or if requested by the Environment Agency whilst operating under an Environmental Permit. The balancing of various pollutants to inform the decision on the best environmental option will also be discussed. This work is likely to be of interest to consultants, planners and policy makers involved in Integrated Pollution Prevention and Control (IPPC, Directive 96/61/EC and the superseding Directives 2008/1/EC and 2010/75/EU), and the control of environmental impacts of industrial activities.

1. Introduction

The Noise Policy Statement for England (NPSE [1]) was published by the United Kingdom Government Department Defra in March 2010. The NPSE [1] applies to all forms of noise including environmental noise, neighbour noise and neighbourhood noise. However the NPSE [1] does not apply to workplace (occupational noise). This clearly means that the NPSE [1] applies to industrial noise. In England the Environment Agency regulates industry sectors with most potential for environmental impact throughout England, and this paper considers the implementation of NPSE [1] from a perspective of these regulating these types industry. However application of the NPSE [1] in the same manner to potentially less polluting industries would appear equally valid.

The NPSE [1] was signed up to by all departments of government and the main aims have generally been adopted through many later published UK government policies and documents which cover England where noise is a relevant consideration. The practical implementation of the NPSE [1] requires the use of other relevant standards and guidance to make considered decisions on regulation and appropriate mitigation of noise from industry. This is consistent with requiring the use of Best Available Techniques and Appropriate Measures under Environmental Permits.

2. Noise Policy Statement for England (NPSE)

2.1 Overview of the NPSE

The NPSE [1] has a succinct 'Noise Policy Vision: Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development'. It consists of six brief paragraphs of text, a statement of three aims, five guiding principles for sustainable development, and four pages of explanatory notes. The NPSE [1] separates policy from technical advice, which in principle allows more rapid changes to how noise is managed as knowledge about impacts develops, without the need to go back and review policy.

2.2 Scope of the NPSE

Any organization that has a responsibility for managing noise is responsible for implementing the NPSE [1]. It applies to all noise not simply ambient noise, with only workplaces excluded. The long term vision is supported by the following aims:

- i) avoid significant adverse impacts on health and quality of life from noise,
- ii) mitigate and minimize adverse impacts on health and quality of life from noise,
- iii) where possible contribute to the improvement of health and quality of life.

2.3 General applicability of the NPSE

There is a requirement for all regulating bodies at the time of rewriting any noise guidance to take into account the NPSE [1]. There is also a requirement that any regulating body making any decisions that may have noise implications takes the NPSE [1] into account. This would apply to County and Local Council Planning Authorities as well as national regulating bodies such as the Environment Agency. Therefore any council planning department should be able to demonstrate their consideration of this where noise is a consideration and that the decision is consistent with the guiding principles of NPSE [1]. Evidence is recently starting to emerge that the NPSE [1] is being implemented, especially for applications which there is a high likelihood of appeal or noise is a major consideration. However evidence is patchy of this is being done in any substantial way by local authorities with few showing detailed working knowledge or understanding of the document.

2.4 NPSE and the IPPC and Industrial Emissions Directives

The NPSE [1] goes on to provide useful advice on interpretation of its aims, including the need to integrate consideration of the economic and social benefit of the activity or policy under examination with proper consideration of the adverse environmental effects. This is consistent with Directive 2008/1/EC [6], which is the latest edition of the IPPC Directive. The NPSE [1] itself does not help clarify the conflict that is often faced between, for example, accepting that a particular development will have some negative impact on the noise climate of some individuals, although that impact is acceptable for the wider benefit to society.

3. The PPC and IE Directive, PPC regulations and Environmental Permitting regulations

In 2007, the Environmental Permitting Regulations combined The Pollution Prevention and Control (England and Wales) (PPC) Regulations 2000 [8] and Waste Management Licensing (WML) Regulations 1994 [9]. The Environmental Permitting Regulations (England and Wales) 2010 [11] were introduced on 6 April 2010, replacing the 2007 Regulations [10]. This is the current method in England and Wales of implementing IPPC, Directive 96/61/EC [5] and the amending Directive 2008/1/EC [6]. The requirements of 2010/75/EU [7] the Industrial Emissions Directive (IED) which are also implemented in England and Wales through the same regulatory regime; however this means little or no practical change for noise due to noise being dealt with in an almost identical manner.

4. Best Available Techniques and Appropriate Measures

Under current UK legislation in England and Wales under the Environmental Permitting Regulations[10][11] operators are required to use Appropriate Measure (AM) to control pollutants including noise. Appropriate Measures is a term which came from the Waste Management Licensing Regulations (WML), In Scotland and Northern Ireland operators are required to use Best Available Techniques (BAT). However, Best Available Techniques and Appropriate Measures for all practical purposes for noise can, be considered to be equivalent in all respects.

5. Current Environmental Permit Noise Condition

The main Environmental Permit noise condition states: *‘Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorized officer of the Environment Agency unless the operator has used appropriate measures, including but not limited to those specified in any approved noise and vibration management to prevent or where that is not practicable to minimize the noise and vibration.’*

The meaning of noise pollution in the above condition is taken straight from the Environmental Permitting Regulations which uses exactly the same wording as the IPPC Directive[5][8].

An operator has to comply with the permit noise condition at all times. Effectively there are two halves to the permit condition, and the two halves offer two ways in which an operator can be compliant with the permit condition. If the activities are free from noise and vibration at levels likely to cause pollution (as perceived by the EA officer) then the operator is compliant with its permit noise condition.

However if the activities are generating noise or vibration at levels likely to cause pollution outside the site (as perceived by the EA officer) then the only way for an operator to be compliant with the permit noise condition is to be able to demonstrate that they are using Best Available Techniques or Appropriate Measures.

An authorized officer may come to the conclusion that there is noise at levels causing pollution any one or a combination of the following:

- a) Personal observations at the receptor
- b) Number of corroborated complaints (although this is usually viewed in combination with EA observations, or monitoring)
- c) Monitoring carried out by the operator or its consultants
- d) Monitoring carried out by Environment Agency Officers

Observations can be made using the National Planning Policy Framework[12] noise guidance as an aid to assessing impact.

6. Demonstration of Best Available Techniques or Appropriate Measures

A demonstration of BAT or AM needs to be done for all permit applications and may also be required for existing permits if the noise impact of a process is identified as causing pollution any time during its operation.

Any demonstration of BAT or AM needs to be able to demonstrate that the three main aims of the Noise Policy Statement for England [1] have been satisfied (see above).

There should be an assessment of the soundscape without the operation. The operation should be characterized and an assessment of what the effect is of putting this operation into that soundscape. This gives context to the situation and can help to predict a resident’s response to the site, which can be as important as any acoustical monitoring.

Any technical noise impact assessment at a receptor must use BS4142:2014[4] as the main assessment. It should not use WHO Guidance for Community Noise [13], WHO Night Guidelines for Europe[14]. Also it should not use BS5228 [15], or BS8233[16].

Acoustics best practice then should be used to identify and rank order the impact of the sites equipment. Then various options should be investigated and the improvements assessed and reported. This should be done in a way which demonstrates satisfying the 3 main aims of the Noise Policy Statement for England. Care should be taken to understand the character of the sound produced by the various sound sources. It should be remembered that it is not always about sound pressure level and that perception at the receptor is of fundamental importance. It can be advantageous for a number of sources to have a similar contribution at the receptor as this may mean that some particular character is to some extent masked.

If there are further mitigation measures that are available, these should be identified and a detailed justification why these are not being adopted. Cost vs. benefit and the NPSE [1] should be used for this demonstration.

In general the larger the noise impact at the receptor, the more rigorous the demonstration of BAT needs to be and the more effort needs to be put into the demonstration, and more likelihood of the need for targeted improvements to noise control at the site.

There are sometimes interactions of noise with other pollutants, for example a company may have to put in a scrubbing system with fans to reduce emissions to air, so it may be acceptable for an increase in sound levels for the reduction in gaseous pollutants, however best practice should be used in minimizing the impact of the additional sound source, but again NPSE [1] can help with demonstration of positive benefit of the addition and strike the appropriate cost and noise control.

It is not always necessary to instantly leap to using a sound level meter to do monitoring or rush to using a standard. If it is obvious what the source of the noise is and what the particular character is that is causing the annoyance then just get on with looking at what can be done to minimize this acoustical feature. BAT or AM is as much about common sense and attention to detail as it is about monitoring and standards.

For IPPC and Industrial Emissions Directive processes BAT reference documents (BREF) for the various sectors, such as Cement and Lime, Combustion, Chemicals etc. can be a useful source of information for assisting with demonstration of BAT for all emissions, including noise..

7. Conclusions

The Noise Policy Statement for England [1] is the main document that should be used for any assessments of noise impact and demonstration of Best Available Techniques. An assessment of the character of the soundscape can be very useful in predicting the impact of a process in that situation. BS4142:2014 [3] should be the main dominating standard which should be used to assess the noise impact of an industrial noise source on a residential receptor.

Any time there is potential for noise pollution to occur a detailed study of Best Available Techniques and further potential measures should be carried out.

For IPPC processes BREF documents should be used as a source of potential noise minimisation.

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