Institute of Acoustics Statement in respect of Wind Farm Noise Assessment

December 2014

The Institute of Acoustics (IOA) is the UK's professional body for those working in acoustics, noise and vibration. It engages widely with other professional bodies in related fields, and members are active in UK, European and International Standards development. Members also work in many sectors including consultancy, research and development, local and central UK Government, as well as for developers of, and objectors to, wind turbines, where they get involved with wind farm noise assessments.

ETSU-R-97

Published in 1996, ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms' was a research report produced by the Energy Technology Support Unit (ETSU) for the then UK Department of Trade and Industry. It contains a methodology for generating noise limits for a wind turbine, and wind farms, and is currently referenced by the UK Government as a guidance document in current UK legislation. The UK Government has endorsed ETSU-R-97 in various policy documents since its publication (such as PPS22 and now EN-3 in England), and it is the UK Government (which is responsible for planning policy) which decides the noise limits in ETSU-R-97.

The 'IOA Bulletin' Method

Following scrutiny of the correct way to interpret some of the guidance in ETSU-R-97, and to take account of wind shear issues, an article was published in the March / April 2009 edition of *Acoustics Bulletin*, the bi-monthly journal of the IOA. This article set out the methodology that had been agreed and accepted at a number of public inquiries. This methodology had been subjected to substantive scrutiny and debate at a number of inquiries in front of planning inspectors, but the counter evidence was dismissed, and the methodology became accepted practice.

IOA Good Practice Guide

At the invitation of the Department of Energy and Climate Change (DECC), the IOA agreed to set up a noise working group to produce a Good Practice Guide (GPG) to the application of ETSU-R-97, considering the technical elements only. The IOA considers the noise limits in ETSU-R-97 and the use of this guidance to be a political matter, which is why they were excluded from the scope of work of the group. The GPG was published in 2013, with additional supplementary guidance notes published in 2014.

During the production of the GPG, several internal peer reviews were conducted, as well as a full consultation. All consultation responses and peer reviews were considered, and changes made to the document where appropriate. It had been the working group's intention to provide a full rebuttal of information that was submitted

that was not judged to represent 'good practice'. However, the working group considered that the various consultation responses had already been presented to a number of public inquiries where rebuttal evidence and inspectors' reports from those inquiries had already addressed all of the points raised, and that this information was already therefore in the public domain.

The IOA consulted widely during the production of the GPG, including with a number of professional and trade bodies, and local and central Government departments. This is normal for the production of a good practice guide which is aimed at use in the planning system, and no stakeholders' views were given undue weight. Editorial balance was exercised over the document, which was approved by the IOA Council (which is made up of a wide range of IOA members from consultancy, research, industry and academia with diverse interests in the various aspects of acoustics) as an IOA document, ensuring that the process followed by the working group was robust.

Amplitude Modulation

'Amplitude modulation' (AM) is a feature of the character of wind farm noise caused by the cyclical nature of the blades. AM was not considered in the GPG as at the time of its production no 'good practice' could be found on how to deal with it, and the one site where an AM planning condition had been applied was subject to an amendment application by the developer (at the time of writing the GPG). The IOA has not endorsed a recent proposed AM condition published by Renewable UK, but has set up a working group to produce guidance for its members on how to measure and rate AM in wind farm noise. Details of this work can be found at: [http://ioa.org.uk/publications/wind-turbine-noise] The IOA also understands that, following its recent request, the Government is to undertake research on the appropriate threshold for AM where it is found.

The IOA is an independent body and has no links with Renewable UK. Some IOA members have been involved in research funded by Renewable UK, and some acoustics companies may have corporate affiliations with Renewable UK.

IOA AM Working Group

A work scope and terms of reference for the AM working group can be found at: [http://ioa.org.uk/publications/wind-turbine-noise]. The IOA is satisfied that the working group contains a fair representation of the technical interests related to the work scope included in the study. As with the GPG, the AM working group's scope does not include the setting of an acceptable threshold for AM, which the IOA considers is a policy matter for the Government to decide.

Summary

The IOA has a responsibility to provide guidance on technical matters within its sphere of activity, and the GPG is endorsed by IOA Council to give advice to members on

how to apply ETSU-R-97. It will continue to advance the understanding of AM through its AM working group, and update its advice when new evidence emerges.