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LANCASHIRE SHALE GAS EXPLORATION: DRILLING NOISE AND THE PLANNING PROCESS

DM Hiller Ove Arup and Partners Limited, Manchester, UK
C Cobbing Ove Arup and Partners Limited, London, UK
BJ Cox Ove Arup and Partners Limited, Manchester, UK

1 INTRODUCTION

This paper describes recent experience of undertaking a noise assessment in support of the planning application for two proposed shale gas exploration sites in Lancashire using hydraulic fracturing, commonly known as 'fracking'. Hydraulic fracturing is a method for creating a network of small fractures in rock to enable natural gas that could not otherwise be extracted to be released into a borehole via which it is brought to the ground surface.

This method of extracting natural gas has been widely used for many decades, the first being in the 1940s in the US, but it has not been used to date for commercial production in the UK. Although there are many areas where the geology in the UK may be suitable for hydraulic fracturing, the technical and commercial viability is uncertain; the two Lancashire sites are exploration sites intended to be used to test the method. An Environmental Impact Assessment (EIA) was required for each site.

Following submission of the Environmental Statement (ES), the planning application for the Preston New Road site was refused by Lancashire County Council (LCC) on the grounds *inter alia* of noise. The Roseacre Wood site was refused on other grounds, but noise was also a concern for the local residents. The applications were appealed, the inquiry being held in February and March 2016. At the time of writing, the decision to the appeal is pending.

2 THE LANCASHIRE SHALE GAS APPLICATION SITES

Each site would be developed as an exploration site for approximately two and a half years followed by up to approximately three to four years for flow testing. The Environmental Statements (ESs) described noise from the following stages of site development, use and restoration:

- Construction of the well pad and access from the highway;
- Drilling;
- Hydraulic fracturing;
- Initial flow testing and longer term extended flow testing; and
- Decommissioning and restoration of the site to its former agricultural use.

For each stage, the ESs described the noise impacts and effects due to changes in noise from road traffic using the public highway network and noise from on-site activities. Noise from changes in road traffic was shown in the ESs to be not significant and is not considered further here.

The construction phase and the decommissioning and restoration works are relatively short duration and use earthworks plant typical of other infrastructure or site preparation works.

Drilling is required to be a continuous process and therefore has to operate 24 hours a day. The impacts and effects of noise during the drilling process therefore require consideration during the night when the potential for adverse effects is greater. Night time noise during drilling was therefore the primary environmental noise concern and is therefore the main focus of this paper.