

Appendix J

Advice to the Development Management Group to inform the planning process and provide public health advice to protect and improve the health of local residents living near the proposed shale gas exploration sites of Preston New Road (planning application numbers LCC/2014/0096 and 0097) and Roseacre Wood (planning application numbers LCC/2014/0101 and 0102).

This advice is based on a Health Impact Assessment that has been carried out by the Director of Public Health in respect of the above planning applications and primarily those relating to the respective site development works (applications LCC/2014/0096 and 0101).

In summary, the key risks to health and wellbeing of the population from the two proposed sites in Lancashire is considered to include a lack of public trust and confidence in the regulatory process and the industry, stress and anxiety from uncertainty about the industry that could lead to poor mental wellbeing; potential noise related health effects due to continuous drilling for at least five months for the initial borehole on each site and for three months for each of the subsequent three boreholes per site (in other words at least 14 months continuous drilling), and potential health risks due to the presence of mining wastes generated as part of the drilling and hydraulic fracturing process being retained on site if adequate off site treatment facilities are not found.

There are considered to be more risks for residents living near the Roseacre Wood site compared to the Preston New Road site due to lower levels of background noise, vehicular access by HGVs delivering plant and equipment along narrow country roads, and the proximity of the site to the national grid major pipeline notwithstanding it is proposed to interconnect into this as part of any flow testing during the appraisal stage. These risks could be prevented, mitigated and monitored through the planning determination.

Key recommendations to inform the planning process include:

1. Consider the need for further noise assessment, particularly on the proposed Roseacre Wood site and if necessary, require additional mitigation measures to reduce noise associated with the development of the sites and more particularly the drilling and hydraulic fracturing phases of the development and which could be controlled by conditions attached to any planning permission.
2. Establish with the Applicant that liability and compensation arrangements are in place to cover any structural damages to properties that can be attributed to an unlikely event of induced seismicity.
3. Undertake an independent verification of the assessment of air quality, transport, waste management and induced seismicity prior to determining the planning applications.
4. Seek agreement with the Applicant to establish an independent comprehensive baseline and on-going long term monitoring of environmental and health conditions prior to any activity on the sites. An indicative framework is described at the end of this document.

5. The Director of Public Health should be informed of the results of the measurements and any breaches to the planning condition or environmental permit.
6. Consider the need to seek further clarification from the Applicant that the cumulative impacts of the operations from the flare, generators, vehicles and drilling will not exceed the national air quality objective thresholds, particularly for PM₁₀, 24 hour mean levels.
7. As part of either the planning or permitting process, the Applicant should be required to submit regular data on the ambient air quality on site measuring all the common air pollutants relevant to the activity and report them regularly. PM₁₀ and PM_{2.5} should be reported separately.
8. The Roseacre Wood site is within 55m of a National Grid gas transmission pipeline. Interconnections into national transmission pipelines are proposed at both sites. Advice should be sought and an assessment undertaken as to whether the nearby gas transmission pipelines are considered to be a major hazard.
9. Any extended flow testing provided for by any planning permissions should be aligned with the permits to be issued by the Environment Agency.
10. An assessment of light pollution as part of the site operations should be carried out, and if there are likely to be significant impacts associated with light pollution from the sites that cannot be mitigated or controlled, the Applicant should be requested to consider the opportunity to offer to fit blackout blinds to those homes most likely to be affected.
11. Further clarification or new information on the occurrence and magnitude of equipment likely to be contaminated with radioactive waste and how such waste would be managed on the site and disposed of should be sought.
12. Should planning permission be granted, it should be a pre requisite that no activity can start until the onsite and offsite waste treatment capacity is defined.
13. Further clarification should be sought that any specific risks due to using the MoD site for accessing the Roseacre Wood site have been addressed before any planning permission is granted.
14. A full assessment of the impacts of additional traffic associated with the proposals on road safety should be carried out and appropriate traffic management options considered to address the public concerns, particularly in respect of the Roseacre Wood site.
15. Should planning permission be granted, provision should be made with the Applicant to maintain road safety, particularly on the access routes to Roseacre Wood site and road safety and any related incidents on the access to both the sites should be monitored.
16. In the event planning permissions are granted, any breach of planning conditions should be reported to the Director of Public Health so that necessary steps can be taken in protecting and improving the health of local communities from issues arising due to the alleged or identified breaches of planning control.

Indicative framework for long term monitoring of environmental and health conditions

1. Context

It is understood that a range of data will be collected by the operator and reported to the regulatory authorities, particularly the EA. What this will constitute is not available to LCC's public health department until the environment permit, planning condition and environmental operating standards are agreed. This document is written with that gap in knowledge.

Following the Applicant's surrender of the permit to the EA (who must be satisfied that environmental conditions are acceptable and will remain so before accepting the surrender), current practice suggests there will not be a requirement for long term monitoring of the environment in and around the restored sites of former wells..

Establishing a shale gas monitoring unit in Lancashire as an independent source of reliable information will help with the understanding of any environment and health impacts and the communication of risks to the local communities. It will also support the development of future policy and practice of shale gas extraction.

2. Aim

To establish an independent, reliable, single source of local information on shale gas exploration in Lancashire.

2.1 Objectives

- To develop a framework to establish a baseline and ongoing monitoring of environmental and health conditions
- To support risk communication and reassurance to local communities on the safety and impacts of shale gas activities in Lancashire.

The governance and management of the shale gas observatory should be determined in consultation with various stakeholders including the local communities, the industry, and the regulatory agencies.

3. The framework for data collection

It is expected that most of the data will be collected under the existing regulatory regime. Hence, the focus should be collating the data in one place with independent verification, analysis and communication of risks to the public in a transparent, reliable and proportionate manner.

Both qualitative and quantitative methods of data collections should be used. It is anticipated that the data collection will start prior to any activities beginning if the applications are approved. It will mainly focus on the geographical area affected by the two planning applications. This is currently understood to be approximately a 2 kilometres radius from the proposed location of the well pads.

The time period for long term monitoring should be at least 30 years post abandonment or until such time there is national guidance on long term monitoring. The suggested 30 year time period is based on the long term monitoring of landfill gas migration.

3.1 Data collection and analysis (an indicative list)

- Profiling of drill cuttings, fracturing fluids to identify substances hazardous to human health including NORM.
- Information on decontamination of equipments.
- Characterisation of the extent of fracture propagation and the permeability of layers above and beyond the faults
- Characterisation of combustion gases at the flare, particularly the levels of hydrocarbons, radon, methane, volatile organic compounds and any other substances deemed hazardous to human health
- Levels of fugitive emissions at well pads, on potential pathways and at receptor households.
- Ground water monitoring of methane.
- Measuring long term well integrity.
- Particulate Matter at source and confirmation of the modelling findings for receptors in the ES
- Levels of noise at source and receptors
- Information on any existing private water supplies that aren't covered by abstraction license within 2 km zone.
- Sampling of ground/food chain.
- Information on local climate within the 2 km zone to identify potential hotspots.
- Safety profile of transport routes and modelling to minimise road traffic accidents
- Safety profile of waste management sites.
- Household survey of human health and wellbeing, and sampling of environmental conditions within the 2km zone. The sampling to be based on modelling from source data.
- Survey of any other sensitive receptors in the vicinity of the two sites.
- Analysis of routinely collected data on health and health care utilisation.
- Analysis of occupational health surveillance data collected by the operator.

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