

Development Control Committee
Meeting to be held on 28 January 2015

Electoral Division affected:
FYLDE EAST

Fylde Borough Council: application number. LCC/2014/0102
Application for monitoring works in a 4 km radius of the proposed Roseacre Wood exploration site comprising: the construction, operation and restoration of two seismic monitoring arrays comprising of 80 buried seismic monitoring stations and 8 surface seismic monitoring stations. The seismic monitoring stations will comprise underground installation of seismicity sensors; enclosed equipment and fenced enclosures. The surface array will also comprise monitoring cabinets. The application is also for the drilling of three boreholes, each installed with 2 monitoring wells, to monitor groundwater and ground gas, including fencing at the perimeter of the Roseacre wood exploration site. Monitoring works in a 4km radius of the proposed Roseacre Wood site, off Roseacre Road and Inskip Road, Roseacre and Wharles, Preston.

Contact for further information:
Development Management, 01772 531929, Environment Directorate
DevCon@lancashire.gov.uk

Executive Summary

Planning permission is sought for the installation of monitoring works in a 4 km radius of the proposed Roseacre Wood exploration site comprising: the construction, operation and restoration of two seismic monitoring arrays comprising of 80 buried seismic monitoring stations and 10 surface seismic monitoring stations. The seismic monitoring stations will comprise underground installation of seismicity sensors; enclosed equipment and fenced enclosures. The surface array will also include the siting of monitoring cabinets. The application is also for the drilling of three boreholes, each installed with 2 monitoring wells, to monitor groundwater and ground gas, including fencing at the perimeter of the Roseacre Wood site off Roseacre Road and Inskip Road, Roseacre and Wharles, Preston.

The application is associated with application LCC/2014/0101 reported elsewhere on this agenda. The applications are supported by a planning statement and an Environmental Statement that assesses the potential impacts of the proposals on the application site and surroundings; a description of the proposed development; scheme alternatives; air quality, archaeology and cultural heritage, greenhouse gas emissions; community and socio economics; ecology; hydrogeology and ground gas; induced seismicity; land use; landscape and visual amenity; lighting; noise; resources and waste; transport; water resources and public health.

Recommendation – Summary

That after first taking into consideration the environmental information and further information, as defined in the Town and Country Planning (Environmental Impact Assessment) Regulations 2011, planning permission be **granted** subject to conditions controlling time limits, working programme, site operations, times and hours of

working, highway matters, protection of public rights of way, drainage, noise, protection of trees, ecological and archaeological protection, restoration and aftercare.

Applicant's Proposal

Planning permission is sought for the installation of an array of monitoring boreholes within a 4 km radius of the proposed Roseacre Wood exploration site (application reference LCC/2014/0101). The proposed array would comprise of 80 buried seismic monitoring stations, 8 surface seismic monitoring stations and three pairs of groundwater monitoring wells.

The array is proposed in support of the application for the construction and operation of a site for drilling up to four exploration wells, hydraulic fracturing of the wells, testing for hydrocarbons, abandonment of the wells and restoration, including provision of an access road and access onto the highway, security fencing, lighting and other uses ancillary to the exploration activities, including the construction of a pipeline and a connection to the gas grid network and associated infrastructure (ref LCC/2014/0101). It is proposed to develop the array in tandem with the development of the site the subject of planning application LCC/2014/0101 and before any of the wells for shale gas are hydraulically fractured to enable data to establish baseline data on naturally occurring seismicity for a period of at least four weeks before the commencement of hydraulic fracturing.

It is proposed to drill 80 underground seismic monitoring stations in the form of boreholes to be drilled up to 100m in depth and diameter of 150mm. The array stations are proposed to be drilled by a truck mounted drilling rig similar to those used for drilling water wells utilising an area of approximately 20m x 20m and would take approximately four days to complete – one day to mobilise, two days to install and one day to demobilise. Each well head would comprise of a concrete pad or collar with an inspection cover mounted flush with the ground surface located at sites away from buildings, roads and other potential sources of interference surrounded by small wooden fenced enclosures approximately 2m x 2m x 1.2m high. Excavated materials would be reused on site. Each borehole would generate approximately 3m³ of bentonite slurry waste and 0.03m³ of cement waste which would be removed off site. Each well would house seismic monitoring equipment designed to provide data on the location, extent and direction of the fractures that occur within the shale rock during hydraulic fracturing and allow the hydraulic fracturing process to be refined throughout the hydraulic fracturing activities.

The surface array would be a network of shallow buried seismic monitoring stations comprised of up to 8 shallow pits to a depth of approximately 0.8m below ground level within which sensitive seismometers would be placed. It would take two days to install each surface array point, which would be dug by hand or mini digger utilising an area approximately 20m x 20m after which they would be surrounded by a 2m x 2m x 1.2m high wooden fenced enclosure. Excavated materials would be reused on site and no waste materials would be exported off site. The monitors are designed to monitor and provide data to mitigate the level of induced seismicity from hydraulic fracturing operations so they are below a level of magnitude that will not damage buildings or infrastructure and is unlikely to be felt by people. The installation of each surface array station would also include small junction boxes to house batteries, data logging

equipment, modem and GPS units housed in a kiosk approximately 1.1m high and located between 1m and 3m from the seismometer.

There would be approximately 10 traffic movements necessary for the construction of each array point comprising 6 light vehicles for the transportation of staff and four tractors transporting drilling equipment. The completed array sites would be visited to change batteries used to power the seismometers and up to 2 light vehicle movements per day per location during the periods of hydraulic fracturing.

It is also proposed to drill three pairs of groundwater monitoring wells within the proposed site fence line but outside the impermeable liner and drainage ditches. The wells would be drilled using a small drilling rig to a depth of 20 - 30m and diameter of 150mm. Excavated materials would be reused on site. Each borehole would generate approximately 3m³ of bentonite slurry waste and 0.03m³ of cement waste which would be removed off site. It is expected each station would be constructed over a period of 3 – 5 days. Continuous monitoring devices to record ground water quality and gas concentrations in the monitoring wells would be deployed. They are designed to allow groundwater quality and ground gas base line data to be collected prior to drilling and then used during and post exploration and for an a period to be agreed following abandonment.

The applications are supported by a Planning Statement (PS), Supporting Documents, an Environmental Statement (ES) and a Non Technical Summary (NTS). The PS includes a Sustainability Appraisal and the Supporting Documents include a Flood Risk Assessment, Utilities Statement and a Statement of Community Involvement.

The ES provides a full description and assessment of the following:

- The application site and surroundings
- A description of the proposed development
- Scheme alternatives
- Air quality
- Archaeology and cultural heritage
- Greenhouse gas emissions
- Community and socio economics
- Ecology
- Hydrogeology and ground gas
- Induced seismicity
- Land Use
- Landscape and visual amenity
- Lighting
- Noise
- Resources and waste
- Transport
- Water resources
- Public health

The applicant submitted further information in support of the Environmental Impact Assessment and in response to matters raised by a number of consultees, groups and individuals. The further information relates primarily to matters raised in respect of the

drill site on air quality, seismology, ecology, policy, highway matters, noise and public health although some information relates to the proposed monitoring stations, most particularly in respect of ecology, seismology and policy.

The proposed drill site and monitoring array all fall within the applicants Petroleum Exploration Development Licence issued by the Department of Energy and Climate Change.

Description and Location of Site

The surface array and buried array would all be located in rural locations within a 4 km radius of the proposed Roseacre Wood exploration site. Access to each array station would be taken either directly from the public highway via existing field access points or from existing agricultural tracks or bridleways. No new access points are proposed. Some of the access points to the array stations are in close proximity to residential properties although the stations themselves are generally well removed or even remote from sensitive properties. Some access points serve more than one proposed array station. Detailed plans of the proposed array and access points are set out in the ES (Volume 2C, Section 9 Appendix R2). A plan identifying the location of the proposed array stations is attached to this report.

The site and surrounding array stations are located within open countryside in the Coastal Plain. The area is characterised by intensively managed areas of arable, horticultural and dairy farmland although there are also small areas of mosslands and peat bogs, a small number of species rich meadows / fens and ancient woodlands. Some of the proposed monitoring points are in close proximity to Biological Heritage Sites (BHS).

Background

The proposed monitoring boreholes are in support of planning application LCC/2014/0101 (reported elsewhere on this agenda) and which includes reference to the interests in shale gas exploration in the Fylde to date. Reference is made in the ES to the opportunity to use existing monitoring boreholes installed as part of the development of a site at Annas Road providing they are suitable to use and which are included in the proposed array as part of this application; if they are not suitable it is proposed to re-drill them.

The array is proposed in support of the application for the construction and operation of a site for drilling up to four exploration wells, hydraulic fracturing of the wells, testing for hydrocarbons, abandonment of the wells and restoration, including provision of an access road and access onto the highway, security fencing, lighting and other uses ancillary to the exploration activities, including the construction of a pipeline and a connection to the gas grid network and associated infrastructure (ref LCC/2014/0101). It is proposed to develop the array in tandem with the development of the site the subject of planning application LCC/2014/0101 and before any of the wells for shale gas are hydraulically fractured to enable data to establish baseline data on naturally occurring seismicity for a period of at least four weeks before the commencement of hydraulic fracturing.

A planning application has also been submitted for the construction and operation of a site for drilling up to four exploration wells, hydraulic fracturing of the wells, testing

for hydrocarbons, abandonment of the wells and restoration, including provision of an access road and access onto the highway, security fencing, lighting and other uses ancillary to the exploration activities, including the construction of a pipeline and a connection to the gas grid network and associated infrastructure at a site at Roseacre Wood, Roseacre (ref LCC/2014/0096).

An application has also been submitted to support that application for a monitoring array (ref LCC/2014/0097). It is proposed to develop the array in tandem with the development of the site the subject of planning application LCC/2014/0096 and before any of the wells for shale gas are hydraulically fractured to enable data to establish baseline data on naturally occurring seismicity for a period of at least four weeks before the commencement of hydraulic fracturing.

The two array applications are very similar in principle in terms of their purpose, design and intention. Consequently there are many common issues to the two applications in terms of their design and intention and how they have been assessed. The two reports relating to such are therefore very similar.

Planning Policy

Strategic Policy

European Policy

EU Habitats Directive

EU Directive – Control of Major Accidental Hazards Involving Dangerous Substances

National Policy

DECC About shale gas and hydraulic fracturing (fracking) 30 July 2013

House of Commons Standard Note Shale Gas and Fracking 22 January 2014

Regulatory Framework

HSE	Shale gas and hydraulic fracturing (fracking) Q&A date?
EA	Regulatory Position Statement Onshore oil and gas well decommissioning and abandonment for well prior to 1 October 2013
UKOOG	UK Onshore Shale Gas Well Guidelines – Exploration & Appraisal phase 1 February 2013
CIWEM	Shale Gas and Water January 2014

Planning Policy

National Planning Policy Framework (NPPF)

The following paragraphs are relevant with regard to the requirement for sustainable development, core planning principles, the requirement for good design, conserving and enhancing the natural environment and facilitating the sustainable use of minerals.

Paragraph 17	Core Planning Principles
Paragraphs 56-66	Requirement for Good Design
Paragraphs 100-103	Flood Risk
Paragraphs 109-112	Conserving and Enhancing the Natural Environment
Paragraphs 118-125	Conserve and Enhance Biodiversity
Paragraphs 142-148	Facilitating the Sustainable use of Minerals
Paragraphs 186-216	Decision-making

Planning Practice Guidance (NPPG)

Air Quality	Air quality impacts
Climate Change	Mitigation and adaption measures
Design	Key design points
Flood Risk and Coastal Change	Flood Risk Assessment
Health and Well Being	Healthy communities / environmental risks
Land Stability	Risk of Unstable Land/ subsidence
Light Pollution	Obtrusive light impacts
Minerals	Mineral Extraction
Natural Environment	Protect biodiversity
Noise	Manage noise impacts
Water supply, wastewater, water quality	Quality and infrastructure

Joint Lancashire Minerals and Waste Development Framework Core Strategy Development Plan documents (LMWDF)

Policy CS1	Safeguarding Lancashire's Mineral Resources
Policy CS5	Achieving Sustainable Minerals Production

Joint Lancashire Minerals and Waste Local Plan – Site Allocation and Development Management Policies – Part One (LMWLP)

Policy NPPF 1	Presumption in favour of sustainable development
Policy DM2	Development Management

Onshore Oil and Gas Exploration, Production and Distribution – Supplementary Planning Document - The Supplementary Planning Document will provide guidance on the interpretation and application of the policies in the adopted Joint Lancashire Minerals and Waste Core Strategy and Site Allocation and Development Management Local Plan, describing how these policies can be applied to developments for onshore oil and gas exploration, production and distribution.

Fylde Borough Local Plan

Policy SP2	Development in Countryside Areas
Policy EP11	Building Design and Landscape Character
Policy EP12	Conservation of Trees and Woodland
Policy EP19	Protection of Ecology
Policy EP21	Protection of Archaeological interests
Policy EP23	Pollution of Surface Water
Policy EP24	Pollution of Ground Water
Policy EP26	Air Pollution
Policy EP27	Noise Pollution

Consultations

The following bodies have been consulted or made representations on the application and supporting documents as initially submitted and in some cases on subsequent information / clarification provided by the applicant in response to requests for further information on issues raised. Their views in respect of the application as initially submitted and on the clarification information provided by the applicant are summarised as follows

Department of Energy and Climate Change: No comments received

Ministry of Defence (Safeguarding): No safeguarding objection.

Fylde Borough Council: Object to the proposal as the proposed buried monitoring arrays and associated works would result in the unnecessary industrialisation of the countryside locations and would detract from the rural character of the locality. It is also considered that the harm to the rural character of the area is not outweighed by the need to provide the proposed monitoring stations as part of the proposal. In the event planning permission is approved for the proposed exploratory drilling site contrary to the wishes of the Borough Council, it is requested that any planning permission granted be limited to the monitoring equipment deemed necessary by the Department of Energy and Climate Change.

Great Eccleston Parish Council: No observations. The monitoring stations are necessary for the safety of residents.

Newton-with-Clifton Parish Council: The proposed development should be granted planning permission.

Woodplumpton Parish Council: If planning permission is granted all monitoring and safety measures should be in place. Have concerns that if a stress line is triggered, monitoring would only alert staff and it would not prevent an earthquake occurring. Request assurance that if activity is recorded by monitors that work would cease immediately and whether the data recorded by monitors would be in the public domain and open to scrutiny by the county council or an independent company other than Cuadrilla.

Kirkham Town Council: Object to the proposed exploration activities as a whole and are of the view that the benefits are outweighed by the potential major problems relating to seismicity; air, land and aquifer pollution risk; light pollution; flow back water; vehicle movements; noise; water supplies; visual impact, property values and insurance; potential future expansion and impact on local wildlife.

Medlar-with-Wesham Parish Council: Object to the proposed exploration activities as a whole and are of the view that the benefits are outweighed by the potential major problems relating to seismicity; air, land and aquifer pollution risk; light pollution; flow back water; vehicle movements; noise; water supplies; visual impact, property values and insurance; potential future expansion and impact on local wildlife.

Health & Safety Executive: The proposed operations will be conducted in accordance with recognised regulations standards and good industry practice. From

a well's operations perspective the Executive has no issues or concerns with the proposals

Public Health England (PHE): makes extensive comments regarding both the planning applications. PHE agrees with the proposals to undertake baseline monitoring. However, details of the schedule for monitoring of gas and groundwater (e.g. frequency and duration) including base line data should be provided with the Environmental Management and Monitoring Plan. Details of what constitutes significant variation to baseline data resulting in the suspension of activities and subsequent investigation should be provided as part of the Environmental Management and Monitoring Plan.

Environment Agency: No objection in principle. In the event permits are issued for application LCC/2014/0101 they would include a need for monitoring.

Some of the proposed monitoring stations are located close to watercourses which are designated as Main Rivers and are subject to Land Drainage Bylaws. The proposed arrays that may fall within 8m of a Main River are identified and works within 8m of such may require prior written consent.

Highways Agency (HA): No objection – there would be no significant impact on the strategic road network in the area, namely the A583 (T).

National Air Traffic Services: No safeguarding objection.

Civil Aviation Authority: No objection

Blackpool Airport Ltd: Initially objected but subsequently raises no objection to the proposed drilling site subject to satisfactory bird mitigation that would not compromise safety standards. (no specific comment received in respect of the proposed array).

National Grid Gas: National Grid has apparatus in the form of national gas transmission pipelines and associated equipment, electricity transmission and overhead lines and above ground electricity sites and installations in the vicinity of the proposed works. Prior consent would be required where any such infrastructure would be affected.

United Utilities PLC: No objection subject to conditions being imposed requiring the submission of a method statement to ensure the protection of UU assets in the highway.

Police Emergency Planning: No comment

Natural England: Initially objected to the proposal due to there being insufficient information to demonstrate that the requirements of Regulations 61 and 62 of the Habitats Regulations had been considered and that the consultation did not include a Habitats Regulation Assessment. Further information in respect of air quality and SPA birds was requested. The objection was withdrawn following the submission of additional information and a Shadow Habitat Regulation Assessment by the applicant.

The Campaign to Protect Rural England: Any further 3d surveys should be carried out using the most up to date technologies such as a fibre-optic array rather than any

older less sensitive or reliable technology such as an electromagnetic geophone array and that should planning permission be granted a condition requiring such be imposed.

RSPB: Believes the regulatory regime for fracking is not fit for purpose and support the concerns of Natural England regarding the impacts on winter wildfowl.

Wildlife and Wetlands Trust: Object to the principle of fracking and in particular the potential risk to wildlife, weaknesses in the current regulatory framework, long term risk of damage to nature and water quality, continued reliance on green house gases and associated threats to the natural environment and to economic and social well being.

LCC Developer Support (Highways): No objection. An assessment of impacts of the proposed access routes on traffic Flows, Vulnerable Road Users - Cyclists, Pedestrians & Equestrians; and safety has been carried out. Access to the monitoring points from the A583 Preston New Road from both the Preston and Blackpool directions as well as utilising the M55 via junctions 3, near Medlar, and Junction 4 (Peel Hill) and the subsequent use of the local network is not expected to generate traffic flows in volumes that will be of a material concern. Vehicles should not park or obstruct the highway network during monitoring at any location.

Some of the proposed access points affect Public Rights of Way (PROW). A condition survey and monitoring regime should be put in place at each proposed monitoring site to ensure the condition of the local highway including Public Rights of Way (PROW) in the vicinity of the each site is monitored and maintained and any damage rectified at the applicants expense and which should be the subject of a condition. Conditions are also proposed requiring any, access and off-site highway works to be constructed in accordance with the details approved and the submission of a management plan. A number of informatives to the applicant are also proposed.

LCC Emergency Planning: The applications are outside the DEPZ for the nearest REPPIR site but are in the thermal hazard range of the major hazard gas pipelines in that area – probably for eventual linking into the system should production (*at the main site*) go ahead.

LCC Public Rights of Way: The following public rights of way are affected:

011 Site H02 affects Public Footpath 05-13-01

017 Site H08 affects Public Bridleway 05-08-12. Access to the site is along a Public Bridleway

020 Site 147164 affects Public Footpath 05-06-01

023 Site 147162 affects Public Footpath Monitoring station appears to be on the Public Right of Way 027 Site 147141 affects Public Footpath 05-06-09

028 Site 147136 affects Public Footpath 05-13-04

029 Site 147152 and 147158 affects Public Footpath 05-13-01

030 Site 147127 affects Public Footpath 05-13-05

033 Site 147118 affects Public Footpath 05-06-05

034 Site 147142 and 147134 affects Public Footpath 05-08-04a

Map of Public Rights of Way only records a public right of way on foot for the above listed public rights of way and in 2 cases a public right of way is recorded for pedestrians, equestrians and cyclists. Any person taking a motorised vehicle along a

public footpath or bridleway without lawful authority commits an offence. Where lawful authority is given the driver of the vehicle is still subject to the provisions of the Road Traffic Act 1988. Typically the use of a public footpath by vehicles has a detrimental effect on the surface.

With respect to Site With regards to Site 147162 (Plan 023) further details are needed with regards to the site layout as the proposed site appears to be on a public right of way. This needs to be brought to the attention of the applicant.

The applicant needs to inform staff and contractors as to their responsibilities when using motorised vehicles on public rights of way and this is something that should be covered by a risk assessment. The applicant will need to assess and record the condition of the surface prior to construction and monitor the condition of the surface of the public rights of way whilst the routes are in use by the applicants vehicles or there contractors. The applicant should confirm what measures will be taken to mitigate wear and tear on the public rights of way surface.

Public Rights of Way must not be obstructed during the proposed development. It is the responsibility of the landowner to ensure that the necessary procedures are followed for the legal diversion of the Public Right of Way if this should be necessary. The granting of planning permission does not constitute the diversion of a Definitive Right of Way. If it is necessary for Public Rights of Way to be temporarily diverted or temporarily closed, this is the responsibility of the landowner to ensure that this is done following the appropriate legal procedures. A temporary closure will only be granted where it is the intention to re-open the right of way upon expiration of the closure on the route recorded on the Definitive Map of Public Rights of Way.

The Town and Country Planning Act 1990 has provision for diverting Definitive Public Rights of Way if a diversion is necessary to allow the development to take place. The Highways Act 1980 also has provision for the diversion of Definitive Rights of Way, though with regards to new developments, the Town and Country Planning Act 1990 is the appropriate legislation to use. It should be noted by the applicant that objections may be raised using either of the above Acts. Lancashire County Council Public Rights of Way Team will not process a diversion application in relation to these paths in connection with a development proposal. Should the paths be obstructed during the development or be obstructed after the development has taken place this would constitute a criminal offence against which action may be taken. The development must not commence until the necessary procedures are in place, either allowing the development to take place without affecting the right of way as recorded on the Definitive Map of Public Rights of Way and subsequent diversion orders and side roads orders, or if it is necessary to divert the above listed Public Rights of Way, then the necessary Orders must be confirmed prior to construction to avoid enforcement action should the above Public Footpath become affected. There is no provision under the Town and Country Planning Act 1990 to allow a retrospective diversion of paths that are already affected by either partially completed or completed development.

LCC Specialist Advisory Services:

Landscape: Due to their small scale and understated appearance the proposed temporary surface and buried arrays would have only localised and very minor landscape and visual effects. In addition there would be, on average, a separation distance of approximately 0.5km between them which would be far enough to

significantly mitigate any cumulative effects. The proposed temporary surface and buried arrays would likely not have any significant landscape and visual effects either individually or in combination with other structures.

Ecology: The proposed monitoring array could have impacts on great crested newts, bats, badgers, water voles, ground nesting birds, reptiles, common toads and brown hare although not in a way that could not be managed or mitigated.

Prior to the commencement of works, a Biodiversity Mitigation Strategy shall be submitted for approval in writing and subsequent implementation in full and maintenance thereafter. The scheme shall include, but not be limited to, details of measures for the avoidance/ mitigation of impacts on protected and priority species (amphibians, bats, nesting and wintering birds, badgers, reptiles, water vole, brown hare) and their habitat during construction and operation of the development.

Prior to the commencement of works, a revised Ecological Mitigation Strategy (landscaping, habitat creation and enhancement) shall be submitted for approval in writing and subsequent implementation in full. The Strategy shall provide details of the creation and enhancement of habitats to offset hedgerow losses and to compensate for impacts on the habitat of protected and priority species. A revised habitat mitigation (Ecological Mitigation Strategy) and species mitigation (Biodiversity Mitigation Strategy / CEMP) should be secured by planning condition.

Archaeology: The Archaeology and Cultural Heritage chapter of the ES has been undertaken in line with the requirements of the County Archaeology Service (LCAS). LCAS agrees with the assessment that the site has a low potential to contain previously unknown archaeological finds or features. The proposed mitigation measures are considered to be appropriate. LCAS recommend therefore that should the application be approved a condition is attached that development should not take place until the implementation of a programme of archaeological work is secured.

Director of Public Health: Has undertaken a Health Impact Assessment on the two main drill sites and identified that the key risks to health and wellbeing of the population from the two proposed sites are 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 (14 months of 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.

A number of 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.
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 PM2.5 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.

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.

Representations – The application has been advertised by press and site notice, and neighbouring residents informed by individual letter.

Friends of the Earth: Object to both applications for the reasons summarised in the report for application LCC/2014/0101 and which primarily relate to the unacceptability of reliance on hydrocarbons as an energy source and the unacceptable environmental and social impacts associated with such. Specifically in respect of the proposed monitoring array some are in very close proximity to Medlar Woods, Medlar Ditch and Wesham Marsh Biological Heritage Sites, with four within 120-200m. The BHS's are only 2-3.1km from the main site and yet have not been considered further in relation to site operations and potential disturbance in the report. 14 of the monitoring array sites are moderate potential and one high for wintering birds there is a view that evidence has not been provided that the site and arrays have only 'local' value for wintering birds.

Sixty letters of representation have been received objecting to the proposal for the following summarised reasons, many of which object to fracking and associated impacts in general as well as being specific to the proposed monitoring array:

- Oppose fracking in principle and distrust the applicant.
- The application should be refused if the application for the drilling site is refused due to their interrelationship.
- Will introduce more traffic and lead to the industrialisation of a rural area with permanent development.

- The monitoring stations affect public rights of way (array stations 147148, 147152 and 147158).
- Access to three of the proposed array is via a single track access shared by access to residential properties (Stanley Mews) and a public footpath. This would lead to conflict and danger to residents using the track during the construction phase which could take up to 4 weeks.
- Unacceptable impact on land and property.
- Will have a negative effect on reducing greenhouse gases.
- Fracking will cause air, surface and ground water pollution with emissions to atmosphere from the flare stack and the need to manage polluted water.
- Two of the stations would be in close proximity to Medlar Meadows and Medlar Ditch BHS sites designated in view of the presence of water voles. The ES is inadequate in that it has not properly assessed the ecology of the area for bats, breeding birds, amphibians and wintering birds.
- Fracking will lead to adverse health impacts particularly stress and anxiety and a number of health studies in America are referenced.
- Risks from seismological movement and damage to property.
- If the application is approved then by implication so would application LCC/2014/0101 and which would be a foot in the door for more similar developments.
- Would adversely affect agricultural land, water courses and the environment.
- Contrary to Fylde Borough Council Objective 1.50 (no2) 'to limit development in the open countryside, to that appropriate to a rural area and necessary for the well being of the rural community.
- Local opinion in opposition to fracking should be supported. The applicant has no 'social licence' to propose developments of this nature in this area.
- There is some confusion over the size of the construction platforms and the use of concrete. If a 20mx20m square concrete pad is to be retained they would have an unacceptable cumulative impact on the environment
- Contrary to the policies of the development plan – Policy EP24, SP2, SP5, SP7, SP9, EP26, EMP5, EP11 and EP15 of the Fylde Local Plan and Policy DM2 and CS5 of the LMWP.
- Would have an adverse impact on the amenities of the area and adversely affect its attractiveness to tourists.
- The 80 deeper monitors are only to provide data to the applicant and only 8 will actually inform the traffic light system. The type of array chosen is considered to be permanent and for which there are better alternatives and no restoration proposals.
- There would be an unacceptable cumulative impact on the ecology of the area and in particular fails to take into account the presence of nesting buzzards in Nigget Wood or the presence of Great Crested Newts (array station 147148).
- The water monitors should be an integral part of the drilling site application.
- The application is not for mining or quarrying and therefore should be determined by Fylde Borough Council.
- No planning permission should be granted until outstanding matters at Preese Hall have been addressed.

Roseacre Awareness Group: The Group represents over 100 local residents who object to the project as a whole and set out their reasons for objecting to both the project and the proposed monitoring array. The majority of the reasons for objecting relate to the development of the proposed drill site and the associated drilling and

fracking and that the project as a whole is contrary to national and local plan policy. However, with regards specifically to the proposed monitoring array, the group is of the view that the actual area and number of seismic arrays is considerable and that the impacts on the environment and ecology have not been adequately addressed. In particular impacts on European Protected Species namely great crested newts, barn owls, bats and nesting birds have not been adequately addressed. With regard to great crested newts, 14 of the array sites have been identified as having high potential for supporting breeding great crested newts. The claim that the nearby grassland is low risk is contrary to the English Nature Report: Great Crested Newt Mitigation Guidelines, August 200. LEARN records do not appear to have been taken into account with regard to breeding populations in proximity to Stanley Farm. No surveys for great crested newts have been carried out in respect of the proposed passing places to cater for HGV traffic. With regard to barn owls, no survey was carried out despite a long term presence in the immediate vicinity of the drill site whilst LEARN holds records of four separate sightings of barn owls. Barn owls would be affected by the development. With regard to bats the applicant has identified certain trees have roost potential but have not been surveyed; seven of the array sites have potential for bat foraging and 71 of the sites have potential for bat foraging but no surveys have been carried out; the use of hedgerows for foraging and commuting have not been taken into account; Bucks Wood (BHS) was noted as being historic woodland and on the proposed traffic route but not surveyed despite extensive records. With regard to breeding birds, the cumulative impact may not have properly been assessed. 80 of the array points are listed as having potential to support breeding birds and in close proximity to hedgerows where birds will breed. It is unclear when the array would be constructed and what impact the construction may have on breeding birds. With regard to wintering birds Fylde Bird Club data does not appear to have been used. Further assessment should be undertaken. The justification for the array is ambiguous as only some of the stations are actually required to detect seismic occurrences (in the public interest) whilst the rest are directly for the benefit of the operator's business. The noise assessment for the site is flawed, uses the wrong standards and consequently may have failed to identify accurate baseline noise levels meaning those impacts on wintering birds (and other ecology) and the steps to mitigate are called into question. A further assessment should be required.

Chamber of Commerce East Lancashire: Supports the proposed development application which will contribute to provide energy and a buffer against volatile imports and bring well being and prosperity to Lancashire.

One letter has been received which raises no objection to one of the proposed array stations in close proximity to their property.

A representation (Glasgow University) in support of the proposals considers that the microseismic monitoring are appropriately designed and are necessary for monitoring the fracking process in the boreholes and recommend if granted conditions requiring:

- The data and results of the microseismic monitoring be made available to appropriate specialists with suitable track records for analysis and such analysis to include estimation of the strength of ground vibration at points at the Earth's surface to determine whether any unacceptable nuisance has affected any of the local population.

- All data and results from the drilling and microseismic monitoring to be published, maybe after an embargo period of say 3 years.
- The applicant to pay for the analysis of the drilling and microseismicity data.

Advice

Planning permission is sought for the installation of an array of monitoring boreholes within a 4 km radius of the proposed Roseacre Wood exploration site. The array would comprise of 80 surface and buried seismic monitoring stations, 8 surface seismic monitoring stations and three pairs of groundwater monitoring wells.

The array is proposed in support of the application for the construction and operation of a site for drilling up to four exploration wells, hydraulic fracturing of the wells, testing for hydrocarbons, abandonment of the wells and restoration, including provision of an access road and access onto the highway, security fencing, lighting and other uses ancillary to the exploration activities, including the construction of a pipeline and a connection to the gas grid network and associated infrastructure (ref LCC/2014/0101). It is proposed to develop the array in tandem with the development of the site the subject of planning application LCC/2014/0101 and before any hydraulic fracturing takes place to enable data to establish baseline data on naturally occurring seismicity for a period of at least four weeks before the commencement of hydraulic fracturing.

Three pairs of groundwater monitoring wells are proposed to be drilled up to a depth of 20 - 30m within the proposed site fence line but outside the impermeable liner and drainage ditches.

The applications are supported by a Planning Statement (PS), Supporting Documents, an Environmental Statement (ES) and a Non Technical Summary (NTS). The PS includes a Sustainability Appraisal and the Supporting Documents include a Flood Risk Assessment, Utilities Statement and a Statement of Community Involvement.

The application for the development of the drilling site is reported elsewhere on the agenda and a full assessment of the proposal and impacts associated with such has been undertaken. The ES has been prepared in respect of both applications but inevitably there is more assessment of the proposed drilling operations the subject of application LCC/2014/0101. The ES presents an over view of the proposal in respect of the sources of natural gas, the exploration and appraisal of the Bowland Shale, provides details of the site locations, the context, geology, hydrogeology and hydrology, a development summary, sequencing of activities, surface and below ground works, monitoring arrays, construction of the well pad and access track, well design, fracturing, flow testing, extended flow testing, decommissioning and restoration.

The ES sets out the scheme alternatives and why the sites for drilling were selected which principally relate to interpretation of geological information gleaned from a 3D geological survey demonstrating the makeup of the geology and the most attractive areas of geology to undertake further investigations. This selection process along with the direction of drilling has determined the nature and location of the proposed monitoring array. The ES undertakes an assessment of the proposed drilling site and array in respect of a number of subject areas. The conclusions of the assessment in respect of the monitoring array are summarised as follows:

- Air Quality – the assessment concludes that there would be no significant impacts on air quality associated with the installation of the surface and buried array due to the location of such, limited earth works and vehicle movements.
- Archaeology and cultural heritage – none of the proposed locations for the surface or buried array fall within the boundary of a designated heritage asset or within 100m of non-designated asset or find spot. The ES concludes that the installation of the array would have no significant effect and would not have any cumulative significant effect and no mitigation is proposed.
- Greenhouse gas emissions: for the purpose of the array these would be restricted to vehicles accessing the sites for installation purposes and then for access associated with monitoring. It is expected that greenhouse gas emissions attributable to the installation of the array would be derived from vehicle movements and which would equate to 1% of the project carbon footprint. Consequently no emission mitigation measures have been identified.
- Community and socio economics: for the purposes of the array, a small team of specialists would carry out the installation works over a short period of time and which are unlikely to generate any community or socio economic costs or benefits to the area.
- Ecology: an extensive ecological assessment for the proposed well site and array has been carried out including field surveys, habitat surveys, surveys for badgers, water voles, bats, amphibians, ornithological, wintering birds and breeding birds. An ecological baseline appraisal was carried out for each of the array stations involving walk over surveys and assessment relating to the potential for wintering birds. Wintering bird surveys were undertaken for all the array stations that were considered to have moderate or high potential for wintering birds. The site and surrounding array stations are located within the Coastal Plain. The area is characterised by intensively managed areas of arable, horticultural and dairy farmland although there are also small areas of mosslands and peat bogs, a small number of species rich meadows / fens and ancient woodlands. Due to the areas proximity to the Ribble and Wyre estuaries the area is visited by large flocks of wintering wildfowl. Which feed and roost on farmland on the coastal plain. Numerous field ponds support great crested newts and water voles populate field drains and water courses. There are no statutory designations within the maximum extent of the surface and buried array stations. Whilst there are three Biological Heritage Sites (BHS) within the 4km search radius covering the maximum extent of the array stations (Medlar Meadows, Medlar ditch and Wesham Marsh) none of the proposed stations are located within a BHS with 3 proposed stations being within 200 or 300m of such. Using the County Councils ecological records (LERN), no protected or notable species were identified within a proposed array station or within the immediate vicinity although great crested newts, water voles, otters, barn owls, bats and badgers were identified within the search radius surrounding the array stations with a possibility for the presence of white clawed crayfish in some of the larger field drains. Brown hares have been recorded as well as the presence of a number of BAP bird species. Only one array site was identified as having high potential for wintering birds at which winter surveys were carried out. 74 of the array sites were identified as having low potential for wintering birds and 13 of moderate potential. It is concluded that due to the small footprint of the array and their positions adjacent to boundary features that the construction of the arrays would not lead to any loss of habitat which supports wintering wildfowl but that there could be potentially significant impact during installation works at

2 of the array sites. In terms of habitats, there would be some risk to ground nesting birds during installation activities. To mitigate the potential impacts on wintering wildfowl it is proposed to construct the arrays outside the wintering bird season. Pre start checks would be made in respect of nesting birds or vegetation would be managed in advance to make sure the area is not suitable for nesting birds. In respect of breeding and wintering birds, monitoring data is proposed to be collected and down loaded remotely preventing the need for vehicles to approach the arrays thereby reducing the potential for disturbance. Whilst some access will be required (e.g. to change batteries), this would be minimised by the employment of best practices.

- Hydrogeology and ground gas: An extensive assessment of the geology of the area has been undertaken and the potential presence of gas and ground water identified. It is proposed to establish the pre-development (baseline) condition of the site for ground gas and ground water by the construction of three ground gas monitoring wells around the proposed well pad perimeter. In respect of the surface and buried array management will be employed during construction works to contain potential contaminants arising from suspended sediment from exposed soils and diesel or lubricants from vehicles to ensure any risk is low. Subject to the employment of such measures it is concluded that the risk to water courses, human health through exposure to contaminated surface water or soil, crops or livestock and ground water associated with the array is low/not significant.
- Induced seismicity: The installation of the surface and below ground array would comprise construction activities at various locations; there is no mechanism for induced seismicity in the construction of either and therefore no effects. The array is designed to record induced and natural seismicity and provide a baseline of background seismicity for the site which would be recorded for at least 4 weeks prior to the commencement of fracking operations and thereafter throughout any hydraulic stimulation as part of the proposed traffic light system to be employed.
- Land Use: An assessment of the impact of the project on agricultural land uses in and around the drill site has been undertaken. The construction of the array would result in a temporary short term impact on farm land. The duration and scale of the construction of the array are such that the potential impact is considered to be negligible and not give rise to a significant effect.
- Landscape and visual amenity: A full landscape assessment has been carried out for the proposed drilling site and the proposed monitoring array. The sites for the monitoring array have been selected following an interactive design /micro siting process to select the least visually intrusive locations for array's, especially in respect of the significant adverse visual effects for users of footpaths. The assessment concludes that the construction of the surface and buried array would only have a minor very localised, low key physical change to the landscape character in discrete areas and no further mitigation would be necessary. Similarly there would be only temporary, very localised and negligible effects on visual receptors accessible by the public confined to routes followed by public rights of way and consequently no further mitigation is considered necessary.
- Lighting: An assessment of the proposed lighting and impacts of such for the drill site and monitoring array has been carried out. It is intended for the surface and buried array to be installed in the daylight and therefore there would be no impact. In the event installation were to extend to twilight hours lighting may be required for a very temporary period at localised points. If this were to be the

case lighting would be confined to the task area, orientated away from any dwellings and a curfew operated to minimise the duration. The impacts are therefore considered to be not significant. Mitigation measures would be set out in a Method Statement detailing best practices and working methods and would provide for no work to be carried out within 10m of tree canopies, 6m of a watercourse, monitoring in advance for the presence of and potential location of great crested newts, the installation of the monitors outside the winter wild fowl season, and protection of breeding birds.

- Noise: A full noise assessment for the site and monitoring array has been carried out. The assessment for the surface and buried array is based on a qualitative review of the plant, machinery, equipment and processes required to install them. The assessment concludes that given the nature of the plant to be used and the short duration of such in the locations proposed there would be no significant effects from noise and no mitigation is required.
- Resources and waste: A full assessment of the resources and waste associated with the drill site and the surface and below ground array has been undertaken. In terms of the construction of the ground water monitoring boreholes, surface and buried arrays, soil and stone would be 'non waste' and be retained and reused on the site. Cement and general waste would be non hazardous and would be recycled where feasible or disposed of to landfill. Developing each of the ground water monitoring boreholes and buried array would generate 3m³ of bentonite slurry (and 0.03m³ of waste cement) which would be disposed at a specialist facility. Any contaminated materials from oil or diesel would be treated as hazardous and either recovered or disposed of at a specialised facility.
- Transport: A full traffic assessment has been carried out for the drill site and monitoring array. For the purposes of the monitoring stations, access routes from the highway network have been identified with a view to minimising the length of the route from the highway network and using existing highway access points where practical. Installation of the surface and buried array will be constructed using a rig that will be towed onto the site by a tractor or similar with two support vehicles. Traffic flows would be negligible over the short installation phase and thereafter 1 – 2 light vehicles per week. Due to the low level of traffic involved the assessment concludes that there would be a neutral effect on traffic and highway users thus not requiring any mitigation.
- Water resources: An assessment of the drill site and monitoring array effects on water supplies and surface water runoff or drainage and the consequent risk of flooding. For the purposes of the array the effects have been assessed on any water usage from installation activities and any increased runoff from the installation of the surface and buried arrays due to a change in impermeable surface through alteration in ground / surface materials. The installations are small and not susceptible to flooding and do not alter ground levels or alter the current level of flood risk. There would be no requirements for water supplies as part of their construction or operation. If water were to be required it would be brought in by bowser. The assessment concludes the predicted environmental effects to be negligible and not significant.
- Public health: Consideration has been given to public health concerns associated with the project on communities and groups of the population rather than individuals. The overview is based on issues raised by Public Health England's (PHE) request to ensure that a chapter in the ES should indicate where public health related issues have been covered by different sections of the ES such as air quality, socio-economics and community and hydrogeology and ground gases. PHE set out a number of recommendations relevant to the

exploration and appraisal activities. Some of the recommendations relate to baseline and environmental monitoring and socio - economic impacts such as increase traffic and impacts on local infrastructure are relevant to the proposed monitoring array. Health topics including noise, air quality, water (surface and ground water), perception effects, effects on community facilities and social networks and physical activity have been considered. The assessment concludes in respect of the project and not specifically in respect of the array which it has been concluded would not have any impacts. Nevertheless, it concludes that the project would not have any significant effects on health.

The proposed development of both the site and associated array at Roseacre Wood is considered to fall within the definitions of both 'exploration' and 'appraisal' as set out in Planning Practice Guidance (PPG): Minerals.

The main material planning considerations are whether:

- There is a need for the development.
- The development is acceptable in terms of highway capacity and road safety.
- The development is acceptable in terms of impact on amenity and public health.
- The development is acceptable in terms of impacts on the water environment.
- The development is acceptable in terms of impact on landscape.
- The development is acceptable in terms of impacts on ecology.

It should be noted that even though the application is submitted in support of planning application LCC/2015/0101 and is addressed as part of the EIA, in itself it does not constitute EIA development and irrespective must be considered on its own merits.

Policy

The NPPF sets out the Governments' policies and how they are to be applied. Whilst it does not form part of the development plan it is a material consideration when determining planning applications. Paragraph 144 gives great weight to the benefits of mineral extraction including to the economy, ensuring there is no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, take into account cumulative impacts mitigating unavoidable noise, dust and vibrations and providing for high standards of restoration at the earliest opportunity.

The NPPF sets out a presumption in favour of sustainable development and approving development that accords with the development plan providing development protects and enhances the natural and local environment, that pollution and other adverse effects are minimised, that new development is appropriate for its location taking into account impact of pollution on health and the environment, that impact of noise health and quality of life are mitigated and which can be achieved by the use of planning conditions.

Planning Practice Guidance

Planning Practice Guides (PPGs) were first published in March 2014 to accompany the NPPF. As with the NPPF, these are a material consideration in considering planning applications.

PPG: Minerals (March 2014) sets out the Government's approach to planning for mineral extraction in both plan-making and the planning application process.

Paragraph 12 sets out the relationship between planning and other regulatory regimes noting that *"the planning system controls development and the use of land in the public interest"* including ensuring development is appropriate for its location and an acceptable use of land. Significantly it notes that *"the focus of the planning system should be on whether the development itself is an acceptable use of the land and the impacts of those uses, rather than any control processes, health and safety issues or emissions themselves where these are subject to approval under regimes. Mineral planning authorities should assume that these non-planning regimes will operate effectively."*

Paragraph 13 sets out the environmental issues minerals planning authorities should address including noise, air quality, lighting, visual impact, traffic, risk of contamination to land, geological structure, flood risk, impacts on protected landscapes, surface and in some cases ground water issues, and water abstraction.

Paragraph 14 sets out issues which are for other regulatory regimes to address. For hydrocarbon extraction this links to paragraphs 110 to 112 which sets out the key regulators in addition to the Mineral Planning Authority, namely:

- Department of Energy and Climate Change (DECC): issues petroleum licences, gives consent to drill, responsibility for assessing risk of and monitoring seismic activity, grant consent for flaring or venting.
- Environment Agency: protect water resources (including groundwater aquifers), ensure appropriate treatment of mining waste, emissions to air, and suitable treatment/management of naturally occurring radioactive materials (NORMs). Assess chemical content of fluids used in operations.
- Health and Safety Executive: regulates safety aspects of all phases of extraction, particularly ensuring the appropriate design and construction of a well casing for any borehole.

Paragraph 17 notes that the cumulative impact of mineral development can be a material consideration in determining planning applications.

Paragraphs 91 to 128 relate specifically to hydrocarbon extraction.

Paragraph 93 notes that planning permission is required for each phase of hydrocarbon extraction, while paragraph 94 notes that applications can cover more than one phase and paragraph 118 notes that both vertical and horizontal drilling can be included in one application.

Paragraph 95 explains that the exploratory phase of hydrocarbon extraction:

"seeks to acquire geological data to establish whether hydrocarbons are present. It may involve seismic surveys, exploratory drilling and, in the case of shale gas, hydraulic fracturing."

Paragraph 100 explains that the appraisal phase

“...can take several forms including additional seismic work, longer-term flow tests, or the drilling of further wells. This may involve additional drilling at another site away from the exploration site or additional wells at the original exploration site...Much will depend on the size and complexity of the hydrocarbon reservoir involved.

Paragraph 124 states that Mineral Planning Authorities should take account of Government energy policy ‘which makes it clear that energy supplies should come from a variety of sources’ including onshore oil and gas. It also refers (and electronically links) to the Annual Energy Statement 2013 which notes, among other things, that the UK needs to make the transition to low carbon in order to meet legally-binding carbon emission reduction targets (paragraph 1.2) and that levels of production from the UK continental shelf are declining so the UK will become increasingly reliant on imported energy (paragraph 1.3). The three stated priorities in delivering the UK’s energy policies in the near term are:

- *“helping households and businesses take control of their energy bills and keep their costs down;*
- *unlocking investment in the UK’s energy infrastructure that will support economic growth; and*
- *playing a leading role in efforts to secure international action to reduce greenhouse gas emissions and tackle climate change.”* (paragraph 1.6).

Paragraph 3.69 states:

“With oil and gas remaining key elements of the energy system for years to come (especially for transport and heating), the Government is committed to maximising indigenous resources, onshore and offshore, where it is cost-effective and in line with safety and environmental regulations to help ensure security of supply.”

Other PPGs

PPG: Air Quality notes that when deciding whether air quality is relevant to a planning application, considerations could include whether the development would (in summary): significantly affect traffic (through congestion, volumes, speed, or traffic composition on local roads); introducing new point sources of air pollution; give rise to potentially unacceptable impact (such as dust) during construction; or affect biodiversity (paragraph 5).

PPG: Climate Change notes that addressing climate change is one of the core land use planning principles the NPPF expects to underpin decision taking.

Section 38 (6) of the Planning and Compulsory Purchase Act 2004 requires planning applications to be determined in accordance with the Development Plan, unless material considerations indicate otherwise. In considering the issues that arise from the proposed development, it is necessary to take into consideration the relevant policies of the Development Plan and the planning history of the site and all other material planning considerations. Government policy is a material consideration that should be given appropriate weight in the decision making process.

The Development Plan for the site is made up of the Joint Lancashire Minerals and Waste Development Framework Core Strategy DPD (LMWDF), the Joint Lancashire Minerals and Waste Local Plan – Site Allocation and Development Management

Policies (LMWLP), and the Fylde Borough Local Plan. Paragraph 33 of the National Planning Policy Framework Technical Guidance requires that planning authorities should provide for restoration and aftercare of mineral working sites to high environmental standards at the earliest opportunity through the imposition of appropriate conditions.

Policy CS1 of the LMWDF seeks to ensure that Lancashire's Mineral Resources will be identified and conserved where they have an economic, environmental or heritage value. Mineral resources with the potential for extraction now or in the future will be identified as Mineral Safeguarding Areas and protected from permanent sterilisation by other development.

Policy CS5 of the LMWDF seeks to ensure, amongst other criteria, that our natural resources including water, air, soil and biodiversity are protected from harm and opportunities are taken to enhance them; workings will not adversely contribute to surface water flooding; proposals for mineral workings incorporate measures to conserve, enhance and protect the character of Lancashire's landscapes; the amenity, health, economic well-being and safety of the population are protected by the introduction of high operating standards, sensitive working practices and environmental management systems that minimise harm and nuisance to the environment and local communities throughout the life of the development, and the sensitive environmental restoration and aftercare of sites take place, appropriate to the landscape character of the locality and the delivery of national and local biodiversity action plans.

Policy DM2 of the LMWLP supports developments for mineral operations (including hydrocarbons) where it can be demonstrated that all material, social, economic or environmental impacts that would cause demonstrable harm can be eliminated or reduced to acceptable levels. In assessing proposals, account will be taken of the proposal's setting, baseline environmental conditions and neighbouring land uses, together with the extent to which its impacts can be controlled in accordance with current best practice and recognised standards. Development will be supported in accordance with the requirements of Policy CS5 of the LMWDF. Impacts and issues to be considered are the quality of design, layout, form, scale and appearance of buildings; the control of emissions from the proposal including dust, noise, odour, light and water; the control of the numbers, frequency, timing and routing transport related to the development and, the restoration within agreed time limits, to a beneficial after use and the management of landscaping.

The Fylde Borough Local Plan contains a number of policies for the general control of development in the Fylde area and was adopted in 2005. The Borough Council are producing a replacement Local Plan. However this is at an early stage of preparation and therefore carries limited weight at present. Due to the age of the existing local plan, it may be that some policies of the existing local plan carry limited weight, particularly where they are not consistent with the NPPF. However the policies referred to in the report are considered to still retain weight and are consistent with the NPPF.

Need for the development

The NPPF notes that "*Minerals are essential to support sustainable economic growth and our quality of life*" and that "*...minerals are a finite natural resource, and can only be worked where they are found...*" (Para 142). Paragraph 144 requires that in

determining planning applications local planning authorities “*give great weight to the benefits of mineral extraction, including to the economy*”, though this must be balanced against the weight given to environmental impacts of a development.

Paragraph 124 PPG states that minerals provides a clear steer that nationally, energy should come from a variety of sources, including oil and gas, and states that mineral planning authorities should take account of Government energy policy, which makes it clear that energy supplies should come from a variety of sources, including onshore oil and gas.

The Governments Annual Energy Statement referred to in paragraph 124 of the PPG notes that energy policy is underpinned by two key factors: the need to reduce carbon emissions and to ensure energy security. It makes it clear that while renewable energy must form an increasing part of the national energy picture, oil and gas remain key elements of the energy system for years to come.

One of the three key priorities outlined in the Annual Energy Statement is ‘*unlocking investment in the UK’s energy infrastructure that will support economic growth*’. Paragraph 3.69 of the Statement notes the Government is committed to maximising indigenous resources, subject to safety and environmental considerations.

Taking this into account, the proposed monitoring array is considered to accord with the approach set in national guidance by investing in energy infrastructure to establish whether indigenous oil and gas reserves are available and worth exploiting in Lancashire.

Local policy issues and assessment of impacts

The proposed array is associated with the proposal to undertake exploration and appraisal of shale gas reserves as part of planning application LCC/2014/0101. The array is required to undertake monitoring of seismic movement to initially establish base line data of naturally occurring seismicity and ground water conditions. They would then be used throughout the fracking activities to record seismic movement associated with the fracking operations as part of the traffic light system of controlling fracking operations and to identify the presence of gas in ground water in the event it were to migrate from the fractured geological horizon or from the wells themselves. The array would be a part of the proposed fracking process and would accord with the national guidance to ensure fracking could be carried out in a way to minimise risk and disturbance associated with seismicity and risk of polluting ground water. The principle is therefore found acceptable and would accord with Policy CS1 of the LMWDF in that they would be making a contribution to the identification and proving of a mineral resource.

The purpose of the array would ensure natural resources including water, air, soil and biodiversity are protected from harm. They would not adversely contribute to surface water flooding or adversely affect the character of Lancashire's landscapes. They are designed to protect the amenity, health, economic well-being and safety of the population and contribute to the required standards of mineral exploration that seeks to employ sensitive working practices and environmental management systems that minimise harm and nuisance to the environment and local communities throughout the life of the exploration stage of the development. Subject to conditions the array would

not have an adverse effect on the ecology of the area that could not be mitigated. In this respect they would accord with Policy CS5 of the LMWDF.

Policy DM2 of the LMWLP supports developments for mineral operations (including hydrocarbons) where it can be demonstrated that all material, social, economic or environmental impacts that would cause demonstrable harm can be eliminated or reduced to acceptable levels.

Policy SP2 of the Fylde Local Plan prescribes the types of development that would be acceptable in Countryside Areas. Policy EP11 requires new development to be sited in keeping with landscape character types. Policy EP12 provides for the protection of trees, woodlands and hedgerows. Policy EP19 seeks to protect ecological interests. Policy EP21 provides for the protection of archaeological interests. Policy EP23 protects surface water resources. Policy EP24 seeks to protect groundwater. Policy EP26 seeks to control air pollution. Policy EP27 seeks to control noise pollution.

The proposed above and below ground monitoring array is directly associated with the exploration and appraisal of shale gas and would be installed over an extended rural area. It is designed to ensure that such exploration and appraisal could be carried out in a controlled manner and in a way to protect the environment by establishing base line conditions for naturally occurring seismicity and ground water conditions before the commencement of fracking and then during the fracking and post fracking and appraisal phases. The stations would be very small localised individual features consisting of ground covers surrounded in agricultural fencing which would be in keeping with the rural location. They would be constructed over a very short period and would not cause a material loss of amenity during the construction or operational phases. Given their proposed locations they would not readily be seen from public view. They would not adversely affect trees or hedgerows. Conditions could be imposed to protect ecological and archaeological interests. They would not materially affect surface or ground water and there would be no material impact on air or noise pollution either as part of their construction or operation.

The ground water monitoring boreholes are proposed to be constructed in association with the development of the main site subject of planning application LCC/2014/0101. Their construction would not cause any loss of amenity either in their independence or in conjunction with the development of the main site.

In this respect the proposed monitoring array is considered acceptable for the purposes of Policy DM2 of the LMWLP and Policies SP2, EP1, EP12, EP19, EP21, EP23, EP24, EP26 and EP27 of the Fylde Local Plan.

The majority of the statutory consultees have raised no objection to the proposed monitoring array subject to the imposition of conditions where appropriate, most particularly relating to the protection of ecological and archaeological interests. Condition surveys could be imposed to ensure the access surfaces are maintained and there is no conflict with public rights of way. Fylde Borough Council, Kirkham Town Council and Medlar with Wesham Council all object to the application and its relationship to planning application LCC/2014/0101. Specifically to this proposal the reasons for objecting relate to the industrial form of development into a rural setting which will be of detriment to resident's quality of life and lead to the devaluation of property and lead to noise pollution.

With regard to the views of the County Council's Director of Public Health, his comments primarily relate to the proposed process of drilling and fracking and whilst not specifically referring to the array application makes a number of recommendations to inform the planning process, some of which by implication relate to the proposed monitoring array. He recommends that there should be a long term monitoring period of at least 30 years post abandonment of the wells or until such time there is national guidance on long term monitoring. The following areas of data collection and analysis are particularly relevant to the proposed monitoring array:

- Characterisation of the extent of fracture propagation and the permeability of layers above and beyond the faults
- Ground water monitoring of methane.
- Measuring long term well integrity.
- Sampling of ground/food chain.

The very purpose of the proposed array is to monitor induced seismicity and ground water quality. The array for monitoring seismicity does not need to be the subject of retention in the long term. The ground water monitoring is designed to identify the potential for the migration of gas and contamination of ground water associated with the drilling process and its potential to contaminate the ground and by implication the food chain. Should planning permission be granted for planning application LCC/2014/0101 they would be constructed at the outset to establish base line monitoring conditions and thereafter retained throughout the proposed drilling process and beyond until such time as they are considered to be no longer required by the operator and would be abandoned as part of the surrender of the permits to the EA. It would be for the EA to determine whether monitoring is no longer required. However, there is no certainty what this period may be or that it would extend to the 30 years post abandonment of the wells as recommended by the Director of Public Health. The 30 years is based on landfill site monitoring. Modern landfills for putrescible materials are required to be contained for permitting processes; the design of landfill sites involves the construction of purpose designed engineered cells involving a number of base layers and the employment of geotechnical membranes to contain leachate and prevent leakage and contamination of surface and ground water. Landfill sites are at surface and present a very different potential risk in terms of the impacts that may arise and the implications of such to those associated with fracking. The target geological horizon for fracking is at considerable depth and above which is a geology that is impermeable to the migration of gas or contaminated fluids. The greatest potential for migration of such is around or via the well casing. The well casing would be constructed in accordance with the requirements of the HSE and engineered using a combination of steel and concrete. It is the long term failure of such that has generated concern based on experiences elsewhere, hence the recommendation to monitor such over an extended period. The integrity of well casings is a matter for the HSE and ground and surface water protection is a matter for the EA. It is therefore considered that the need or otherwise for long term monitoring post abandonment of any wells is a matter for the HSE and or the EA as part of the permitting process and is not a matter for the landuse planning process. For the purposes of the planning guidance the county council should assume that other regimes will operate effectively and that they can rely on the assessment of other regulatory bodies. Nevertheless before granting planning permission the county council needs to be satisfied that issues can or will be adequately addressed by taking the advice from the relevant regulatory body.

A planning authority's reliance on other (non planning) regulatory bodies to provide the appropriate controls and conditions in relation to their statutory responsibilities was recently addressed in case law (December 2014) relating to a drilling site in West Sussex {R [on the application of Frack Free Balcombe Residents Association] v West Sussex County Council [2014] EWHC 4108 (Admin)}. Paragraph 102 of the judgment is particularly relevant to this issue:

“the existence of the statutory regimes applied by the HSE, the EA and the DECC shows that there are other mechanisms for dealing with the very proper concerns which the Claimant's members have about the effects on the environment. The Claimant and its members' concerns are in truth not with the planning committee's approach of relying on the other statutory regimes, but rather with the statutory bodies whose assessments and application of standards they disagree with. That does not provide a ground of legal challenge to the decision of the planning committee.”

In light of this judgment as well as NPPF guidance (Para 122) it is not necessary or appropriate to impose planning conditions or require an applicant to enter into a S.106 legal agreement with respect to matters, such as longer term monitoring, that are clearly within, and properly, the remit of other regulatory regimes and bodies.

With regards to this application it is considered that the County Council can be satisfied that the HSE and EA will ensure drilled wells are properly abandoned and monitored for whatever period is necessary before the permits can be surrendered. It is therefore not necessary to impose a condition specifying any period for monitoring or requesting the applicant to enter into any legal agreement relating to such.

With regard to the views of CPRE, the applicant has already carried out a detailed 3D geophysical survey of the subsurface area where underground works are proposed at Roseacre Wood. This survey was carried out at an appropriate resolution for finding faults. No more 3D seismic surveys are proposed and the proposed monitoring of micro-seismicity induced during hydraulic fracturing operations will be carried out using the array proposed as part of this application. This is considered to be go beyond that recommended in reports by The Royal Society and The Royal Academy of Engineering. The sensitivity of the instruments will be to at least two orders of magnitude below the required seismic background noise level. This method of monitoring induced seismicity and the seismometers proposed are to “best industry practice”. Monitoring of the fracture growth will be carried out using the buried seismic array. The fibre optic arrays described by CPRE relate to down hole monitoring of “reservoir pressure and temperature, distributed-temperature sensing (DTS), flow, and phase-fraction sensing...and seismic systems” during drilling and are not appropriate for the surface or buried monitoring arrays and therefore a condition as proposed is considered unnecessary.

Representations

With regard to the representations received some of these are made specifically to the proposed development the subject of this application; some overlap with that proposed as part of planning application LCC/2014/0101 and which is understandable given the proposed interrelationship of the two applications. A number of representations have been received from 60 individuals and a number of groups and organisations objecting to the proposal. The primary reasons for objecting are against fracking in principle, and therefore opposed to any associated development, and maintaining that if the

drilling site is refused then the array application should similarly be refused. In respect of the specific objections to this application there is concern that installation of the array would lead to more traffic and affect public rights of way. Whilst there would be more traffic associated with the installation of the array this would be minimal and over a very short period of 2 – 3 days for each station and which would be accessed via existing field access points. Maintenance of the stations would generate one or two vehicles per week. It is considered that the vehicle movements associated with such would be of a scale that could be accommodated on the public highway and would not lead to any adverse impact on highway amenity, residential access or on users of public rights of way. The monitoring stations once constructed would be accessed via existing field access points, would be 4m² surrounded by 1.2m high wooden agricultural fencing. It is considered they would not be visually intrusive nor constitute an industrialisation of the countryside. They would not have a negative impact on land or property, contribute to greenhouse gases or cause air, surface or ground water pollution. Whilst concerns about fracking are understandable the purpose of the array is to provide base line data and protect the environment in the event drilling and fracking goes ahead. With regard to impacts on ecology concern has been expressed to the inadequacy of the surveys undertaken in respect of great crested newts, barn owls, bats, water voles, nesting birds and wintering wildfowl and that further surveys should be carried out. This view is not shared. It is considered that given the nature, duration of installation and locations of the array, the stations would not have an adverse impact on ecology to the degree maintained, that the ecological surveys and assessments are sufficient and that adequate management to minimise the impact on such is both proposed and could be controlled by condition. The results of the monitoring would be a matter for DECC and it would not be appropriate to impose a planning condition requiring the results to be submitted for analysis.

The purpose of the array is to provide base line data and protect the environment. Whilst the application is interrelated to the proposal to drill and frack it must still be considered on its merits and against the policies of the development plan. Given the scale, nature and purpose of the proposed array it is considered that it would not lead to the industrialisation of the countryside and not cause unacceptable impacts on the amenities of the area or on residential properties. The reasons for objecting cannot therefore be supported.

Conclusions

Notwithstanding the application is integrally linked to the application for exploration and appraisal of shale gas at Roseacre Wood (LCC/2014/0101) it must still be considered on its own merits. The proposed monitoring array is designed to ensure that such exploration and appraisal could be carried out in a controlled manner and in a way to protect the environment by establishing base line conditions for naturally occurring seismicity and ground water conditions before the commencement of fracking and then during the fracking and post fracking and appraisal phases. The stations would be very small localised individual features consisting of ground covers surrounded in agricultural fencing and which would be in keeping with the rural location. They would be constructed over a very short period and would not cause any loss of amenity during the construction or operational phases. The highway has sufficient capacity to accommodate the construction traffic and would not lead to any greater loss of road safety. Given their proposed locations they would not readily be seen from public view other than from public rights of way and would not have any impact on amenity, landscape or public health. They would not adversely affect trees

or hedgerows. Conditions are proposed to protect ecological and archaeological interests. They would not affect surface or ground water and would not generate air or noise pollution either as part of their construction, operation or restoration phases.

The array has been designed to provide baseline and monitoring information associated with planning application LCC/2014/0101 and has been assessed as part of the ES which is common to both applications. Whilst planning application LCC/2014/0101 is recommended for refusal the application for the array must be considered on its merits. The conclusion is that it would not cause any unacceptable harm and would not be unacceptable for the purposes of the policies to the NPPF or the local development plan. To refuse it just because of its association with planning application LCC/2014/0101 would not be correct and would be unlawful. It is therefore considered that the proposed array is acceptable and can be supported.

However, it is considered that it should only be treated as temporary development and provision be made for its removal in the future whether it is developed in its independence or in conjunction with any successful application for drilling and hydraulic fracturing.

With regards to the water monitoring boreholes they are specifically designed and located for the purposes of planning application LCC/2014/0101. The County Council's Director of Public Health has recommended if planning permission were to be granted (and they were to be implemented as part of planning application LCC/2014/0101), there would be merit in retaining them for an extended period post abandonment of the well site to enable monitoring to be carried out to establish the presence of leaking gas or contaminated fluids. However, it is considered that this should be a matter for the HSE and the EA as part of their permitting process and that the County Council should assume that the regulatory process will be employed by those bodies and be satisfied that the necessary works to abandon the wells and monitor the quality of ground water would be carried out by those regulatory bodies should planning permission be granted for planning application LCC/2014/0101 or any further planning application.

In this respect the proposed monitoring array is considered acceptable for the purposes of the policies of the NPPF and the policies of the development plan.

In view of the scale, location and nature of the proposed development it is considered no Convention Rights as set out in the Human Rights Act 1998 would be affected.

Recommendation

That after first taking into consideration the environmental information and further information, as defined in the Town and Country Planning (Environmental Impact Assessment) Regulations 2011, planning permission be **granted** subject to the following conditions:

Time limits

1. The development shall commence not later than 3 years from the date of this permission.

Reason: Imposed pursuant to Section 91 (1) (a) of the Town and Country Planning Act 1990.

2. Written notification of the date of each of the following events shall be made to the County Planning Authority within 7 working days of each event:
 - a) The commencement of the development for the drilling and installation of each of the 80 buried seismic monitoring stations, the burying of the 8 surface seismic monitoring stations and construction of the associated enclosed equipment and the erection of the fenced enclosures to all the array points and the drilling of the 3 ground water monitoring boreholes and erection of fenced enclosures.
 - b) The completion of the drilling and installation of each of the 80 buried seismic monitoring stations, the burying of the 8 surface seismic monitoring stations and construction of the associated enclosed equipment and the erection of the fenced enclosures to all the array points and the drilling of the 3 ground water monitoring boreholes and erection of fenced enclosures.
 - c) The removal of the seismic monitoring equipment from each of the 80 buried seismic monitoring stations and the 8 surface seismic monitoring stations and the removal of all associated enclosed equipment and fenced enclosures to all the array points and the 3 ground water monitoring boreholes.
 - d) The commencement of the plugging and abandonment of the each of the 80 buried seismic monitoring stations and 3 ground water monitoring boreholes and the restoration of the sites of the 80 buried seismic monitoring stations, the 8 surface seismic monitoring stations and removal of associated enclosed equipment and fenced enclosures to all the array points and the drilling of the 3 ground water monitoring boreholes in accordance with the conditions to this permission.
 - e) The completion of the plugging and abandonment of the each of the 80 buried seismic monitoring stations and 3 ground water monitoring boreholes and the restoration of the sites of the 80 buried seismic monitoring stations, the 8 surface seismic monitoring stations and the removal of all associated enclosed equipment and fenced enclosures to all the array points and the 3 ground water monitoring boreholes in accordance with the conditions to this permission.

Reason: To enable the County Planning Authority to monitor the development to ensure compliance with this permission and to conform with Policy CS5 of the Joint Lancashire Minerals and Waste Development Plan.

3. The 80 buried seismic monitoring stations, the 8 surface seismic monitoring stations and associated enclosed equipment and fenced enclosures to all the array points and the 3 ground water monitoring boreholes authorised by this permission shall be removed and the land restored in accordance with the conditions to this planning permission within 5 years from the date of notification of commencement of the first surface or buried monitoring station or ground water monitoring borehole as required by condition 2a of this permission.

Reason: To enable the County Planning Authority to monitor the development to ensure compliance with this permission and to conform with Policy CS5 of the Joint Lancashire Minerals and Waste Development Plan.

4. The development of the surface array, buried array and water monitoring boreholes shall only be carried out outside the period 31st October and 31st March.

Reason: To safeguard the ecological interests in the area and to conform with Policy 23 of the Lancashire Minerals and Waste Local Plan and Policies EP23 and EP24 of the Fylde Borough Local Plan.

Working programme

5. The development shall be carried out, except where modified by the conditions to this permission, in accordance with the following documents:
 - a. The Planning Application received by the Director of Transport and Environment on 16 June 2014.
 - b. Submitted Plans and documents received by the Director of Transport and Environment on 16 June 2014:

Drawing No.RW-MW-010
Drawing No.RW-MW-011
Drawing No.RW-MW-012
Drawing No.RW-MW-013
Drawing No.RW-MW-014
Drawing No.RW-MW-015
Drawing No.RW-MW-016
Drawing No.RW-MW-017
Drawing No.RW-MW-020
Drawing No.RW-MW-021
Drawing No.RW-MW-022
Drawing No.RW-MW-023
Drawing No.RW-MW-024
Drawing No.RW-MW-025
Drawing No.RW-MW-026
Drawing No.RW-MW-027
Drawing No.RW-MW-028
Drawing No.RW-MW-029
Drawing No.RW-MW-030
Drawing No.RW-MW-031
Drawing No.RW-MW-032
Drawing No.RW-MW-033
Drawing No.RW-MW-034
Drawing No.RW-MW-035
Drawing No.RW-MW-036
Drawing No.RW-MW-037
Drawing No.RW-MW-038
Drawing No.RW-MW-039
Drawing No.RW-MW-040
Drawing No.RW-MW-050

- c All schemes and programmes approved in accordance with this permission.

Reason: To minimise the impact of the development on the amenities of the area and to conform with Policies SP2, EP11, EP12, EP13, EP14, EP18 and EP28 of the Fylde Borough Local Plan.

Hours of working

- 6. No soil stripping, delivery or removal of materials, plant and equipment, site development installation of the surface array, buried array and ground water monitoring wells or restoration shall take place except between the hours of:

07.30 to 18.30 hours Mondays to Fridays (except public holidays)
07.30 to 13.00 hours on Saturdays

No soil stripping, delivery or removal of materials, plant and equipment, site development installation of the surface array, buried array and ground water monitoring wells or restoration shall take place on Sundays or public holidays.

This condition shall not apply to the operations of drilling the boreholes or the carrying out of essential repairs to plant and equipment used on the site.

Reason: In the interests of the amenities of the area and to conform with Policies 2 and 74 of the Lancashire Minerals and Waste Local Plan.

Highway matters

- 7. Measures shall be taken at all times during the site construction, operational and restoration phases of the development to ensure that no mud, dust or other deleterious material is tracked onto the public highway by vehicles leaving the sites.

Reason: In the interests of highway safety and local amenity and to conform with Policies 2 and 37 of the Lancashire Minerals and Waste Local Plan.

- 8. All vehicles shall enter or leave the sites of the surface and buried array and the ground water monitoring well sites in a forward direction.

Reason: In the interests of highway safety and local amenity and to conform with Policies 2, 37 and 74 of the Lancashire Minerals and Waste Local Plan.

- 9. No development shall commence until details of the site layout and a condition survey of the access to Site 147162 (Plan 023) which affects Public Footpath 027 has been submitted to and approved in writing by the County Planning Authority. The site layout shall avoid the public right of way and the access survey shall record the condition of the surface prior to construction and provide for the monitoring of the condition of the surface of the public rights of way whilst the route is in use by vehicles associated with the construction and operational phases of the development. The results of the survey on completion of each phase of the development shall be submitted to the County Planning Authority within 7 days of the completion of each phase and where deterioration of the surface has occurred, details shall identifying what measures will be taken to

mitigate wear and tear on the public right of way surface shall be submitted to the County Planning Authority for approval in writing. The approved measures shall be carried out within 28 days of their approval and the public right of way shall thereafter be maintained in accordance with the approved measures until the completion of the restoration of the site.

Reason: In the interests of the amenities of the area and to conform with Policies 2 and 74 of the Lancashire Minerals and Waste Local Plan.

Protection of trees and hedges

10. No development including the storage of excavated materials shall take place within the extreme circumference of the branches of any tree.

Reason: To protect existing trees within or adjacent to the site in the interests of the visual amenities of the area and to conform with policy 8 of the Lancashire Minerals and Waste Local Plan.

11. All hedges and trees in close proximity to the monitoring station site shall be retained and protected from any damage throughout the construction phase of development.

Reason: In the interests of visual and local amenity and the local environment and to conform with Policy EP12 of the Fylde Local Plan.

Protection of Ecology

12. Prior to the commencement of development, a Biodiversity Mitigation Strategy shall be submitted to the County Planning Authority for approval in writing. The Strategy shall include, but not be limited to, details of measures for the avoidance/ mitigation of impacts on protected and priority species (amphibians, bats, nesting and wintering birds, badgers, reptiles, water vole, brown hare) and their habitat during the construction and operational phases of the development. The approved Strategy shall be implemented in full.

Reason: To safeguard the ecological interests in the area and to conform with Policy 23 of the Lancashire Minerals and Waste Local Plan and Policies EP23 and EP24 of the Fylde Borough Local Plan.

13. Prior to the commencement of development, a revised Ecological Mitigation Strategy (landscaping, habitat creation and enhancement) shall be submitted for approval in writing. The Strategy shall provide details of the creation and enhancement of habitats to compensate for impacts on the habitat of protected and priority species. The approved Strategy shall be implemented in full.

Reason: To safeguard the ecological interests in the area and to conform with Policy 23 of the Lancashire Minerals and Waste Local Plan and Policies EP23 and EP24 of the Fylde Borough Local Plan.

14. No trees or hedgerows shall be removed during the bird-breeding season between 1 March and 31 July inclusive unless they have been previously checked and found clear of nesting birds in accordance with Natural England's guidance and if appropriate, an exclusion zone set up around any vegetation to

be protected. No work shall be undertaken within the exclusion zone until birds and any dependant young have vacated the area.

Reason: To protect nesting birds and to conform with Policy 23 of the Lancashire Minerals and Waste Local Plan and Policies EP23 and EP24 of the Fylde Borough Local Plan.

Archaeology

15. At least 14 days written notice of commencement of a works on any part of the monitoring array shall be given to the County Planning Authority. Access shall be afforded at any time during the development to an archaeologist nominated by the County Planning Authority to enable him to undertake a watching brief and observe the excavation and to record finds, items of interest and archaeological interest.

Reason: In the interests of archaeological understanding and to conform with policy EP21 of the Fylde Borough Local Plan.

Safeguarding of Watercourses and Drainage

16. Provision shall be made for the collection, treatment and disposal of all water entering or arising on the site during the installation of the array to ensure that there shall be no discharge of contaminated or polluted drainage to ground or surface waters.

Reason: To safeguard local watercourses and drainages and avoid the pollution of any watercourse or groundwater resource or adjacent land and to conform with Policy 23 of the Lancashire Minerals and Waste Local Plan and Policies EP23 and EP24 of the Fylde Borough Local Plan.

Control of noise

17. All plant, equipment and machinery used in connection with the installation and removal of the monitoring array and restoration of the sites shall be equipped with effective silencing equipment or sound proofing equipment to the standard of design set out in the manufacturer's specification and shall be maintained in accordance with that specification at all times throughout the construction and restoration phase of the development.

Reason: To safeguard the amenity of local residents and adjacent properties/landowners and land users and to conform with Policy 2 and 74 of the Lancashire Minerals and Waste Local Plan.

Restoration

18. Restoration shall be carried out in accordance with the following:
- a) All associated plant, kiosks, hardstandings, pollution control membranes, aggregates, hardcore and fencing shall be removed from the land of the surface array and buried array and for the ground water monitoring wells following their formal abandonment.

- b) The upper layers of the subsoil material shall be subsoiled (rooted) to a depth of 600mm with a heavy-duty subsoiler (winged) prior to the replacement of topsoils to ensure the removal of material injurious to plant life and any rock, stone, boulder or other material capable of preventing or impeding normal agricultural land drainage operations, including mole ploughing and subsoiling.
- c) Following the treatment of the subsoil, topsoil shall be placed over the site to a minimum depth of 150mm and shall be ripped, cultivated and left in a state that will enable the land to be brought to a standard reasonably fit for agricultural use.

Reason: To secure the proper restoration of the site in the interests of the visual amenity of the area and to conform with Policy 106 of the Lancashire Minerals and Waste Local Plan.

Aftercare

19. Within 3 months of the certification in writing by the County Planning Authority of the completion of restoration as required by condition 2 to this permission, a scheme and programme for the aftercare of the sites of the surface and buried monitoring array and the ground water monitoring wells for a period of five years to promote the agricultural afteruse of the site shall be submitted to the County Planning Authority for approval in writing. The scheme and programme shall contain details of the following:
- a) Maintenance and management of the restored site to promote its agricultural use.
 - b) Weed control where necessary.
 - c) Measures to relieve compaction or improve drainage.
 - d) An annual inspection to be undertaken in conjunction with representatives of the County Planning Authority to assess the aftercare works that are required in the following year.

Reason: To secure the proper aftercare of the site and to conform with Policy 106 of the Lancashire Minerals and Waste Local Plan.

Notes

1. If bats are found or suspected at anytime during construction activities, work in that area should cease immediately until further advice has been sought from Natural England and/or the scheme ecologist. The scheme ecologist, Natural England or their agents in the Lancashire area will be able to locate a licensed bat worker to remove any bats present which might be harmed during the works. If bats are exposed during the works and are vulnerable to harm, gloves or a container should be used to move them to a dark and quiet area, until a bat worker has been contacted.
2. The grant of planning permission does not entitle a developer to obstruct a right of way and any proposed stopping - up or diversion of a right of way should be the subject of an Order under the appropriate Act. The following stations affect Footpath and Bridleway nos.:

011 Site H02 affects Public Footpath 05-13-0.
 017 Site H08 affects Public Bridleway 05-08-12. Access to the site is along a Public Bridleway.
 020 Site 147164 affects Public Footpath 05-06-01.
 023 Site 147162 affects Public Footpath. Monitoring station appears to be on the Public Right of Way 027. Site 147141 affects Public Footpath 05-06-09.
 028 Site 147136 affects Public Footpath 05-13-04.
 029 Site 147152 and 147158 affects Public Footpath 05-13-01.
 030 Site 147127 affects Public Footpath 05-13-05.
 033 Site 147118 affects Public Footpath 05-06-05.
 034 Site 147142 and 147134 affects Public Footpath 05-08-04a.

3. Some of the proposed monitoring stations are located close to watercourses which are designated as Main Rivers and are subject to Land Drainage Bylaws. The proposed arrays that may fall within 8m of a Main River are identified and works within 8m of such may require prior written consent. The applicant is advised to contact the Environment Agency.
4. The applicant's attention is drawn to the letter from United Utilities dated 24/10/14 attached to and forming part of this decision notice relating to the need to protect their assets and services.

Local Government (Access to Information) Act 1985
List of Background Papers

Paper	Date	Contact/Directorate/Ext
LCC/2014/0101	16/06/2014	Stuart Perigo/Environment/531948
LCC/2014/0102	16/06/2014	
LCC/2014/0096	02/06/2014	
LCC/2014/0097	02/06/2014	

Reason for Inclusion in Part II, if appropriate

N/A