Appendix 14

Resources and waste

Proposal Outline

The applicant has undertaken an assessment of the management of waste, including inert, non-hazardous and hazardous waste, and including waste water. The wastes described would be solid, liquid and gas and both oil and gas are defined as minerals. The waste produced would be:

- Non-hazardous and inert waste.
- The accumulation of injected hydraulic fracturing fluid which would remain in the underground target formation and has become waste;
- Above ground hazardous waste including the temporary deposit and accumulation of hazardous waste in storage containers as the wells are successively drilled. The hazardous waste would include flow back water and drill cuttings coated with residual Low Toxicity Oil Based Muds ("LTOBM").
- The incineration by flaring of hazardous waste, namely natural gas above 10 tonnes per day, as an activity listed in schedule 1 of the Environmental Permitting (England and Wales) Regulations 2010.

The management of waste is set out in a waste management plan and subject to environmental permits that are regulated by the EA and needed by the applicant to carry out their proposed operations. The permits set out the conditions needed to manage waste and naturally occurring radio active material (NORM). Now permits are issued, Cuadrilla will have to comply with the proposed conditions that are designed to ensure that operations do not cause harm to people or the environment.

The assessment concludes that all types of waste would not result in a significant effect; that there is sufficient capacity to treat flow back fluid even though at peak times it could use up to 68% of identified treatment capacity but which would have a significant effect. Consequently re use of flow back fluid is proposed to reduce this effect. Fracturing at the site would be staggered with Roseacre Wood to avoid increasing weekly waste water production rates to minimise cumulative effects. In the event on site storage and treatment capacity is exceeded, operations would be suspended.

General measures would be employed to reduce the quantity of waste generated, increase the re-use, recycling and recovery of materials and improve waste management.

Policy

National Planning Policy Framework (NPPF)

Paragraphs 11-14	Requirement for Sustainable Development
Paragraph 17	Core Planning Principles
Paragraphs 56-66	Requirement for Good Design

National Planning Policy Guidance (NPPG)

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

Fylde Borough Local Plan

Policy EP23	Pollution of Surface Water
Policy EP24	Pollution of Ground Water
Policy EP26	Air Pollution

Summary of consultee comments and representations

LCC Director of Public Health: Has undertaken a Health Impact Assessment (HIA) on the two 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.

As part of the recommendations it is recommended that:

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.

Westby-with- Plumptons Parish Council: Objects. Recommend the application should be refused for a number of reasons including the following specifically to resource and waste:

- Air pollution to any degree is unacceptable.
- Concerns regarding water contamination and the disposal of contaminated water.

Medlar-with-Wesham Parish Council and Kirkham Town Council: Recommend the application should be refused for a number of reasons including the following specifically to resource and waste:

- Potential flow back water site leakages and spillage during disposal and transportation.
- No information on water treatment plans. Where will flow back water be treated and will any new treatment plan accept waste from other UK sites.

Friends of the Earth: has objected to the proposal and further information for a number of reasons including waste. They have also commissioned consultants to advise on waste. The reasons for objecting are summarised as follows:

- Insufficient information on how overflow water and wastewater discharges, and pollutants, will affect the local environment and protected sites.
- Management of contaminated wastewater is wholly inadequate. There is a lack of treatment centres, resulting in potential capacity issues, especially if flow back rates are higher than estimated. This is not an adequate solution.
- Contrary to Planning Policy (Statement 10) as the application produces huge quantities of waste.
- It is unclear what waste quality standards would be applied by the applicant to ensure that concentration of pollutants in the wastewater did not accumulate beyond safe levels as a result of re-use for fracking and how risks to the environment and health and safety would be mitigated.
- Further investigation is required before the Council can lawfully grant an application to drill.
- Legacy of underground waste which will be present is denied, not a temporary development as it will create permanent contaminated wastewater
- Risks from flow back fluid and waste water.
- Risks of storage of waste to protected ecological areas.

Concerns have been expressed in representations received objecting to the proposal relating to the production, management and transportation of waste and the location and capacity of waste management facilities.

- Huge amounts of toxic/hazardous waste and waste water will be produced with inadequate measures in places to treat and dispose of it.
- Significant risks associated with its waste transportation and disposal.
- Risk of a devastating impact on local environment from waste management.
- There are no adequate treatment facilities / insufficient capacity for huge volumes of hazardous and contaminated waste with radium.
- Burying radioactive waste in landfill sites is ridiculous.
- How can massive amounts of waste water be disposed of without significantly affecting the landscape.
- How will large volumes of waste water be managed in times of heavy rain and localised flooding.
- Flowback fluid recycling risk assessment does not recognise resultant flow back waste will have increased toxicity /chemical composition.
- DECC has said that there is no clear and safe way to treat flowback water.

- Flow back water from Preese Hall, when tested at Davyhulme was too toxic to treat, so returned to Preese Hall.
- Safety concerns over separating process for flow back fluid.
- Cuadrilla has dumped thousands of gallons of contaminated waste water into Manchester Ship Canal (from Barton Moss) and was allowed to get away with it. The EA cannot guarantee that this will not happen again.
- Flowback fluid will be 'lost' to avoid expense of disposal. How can this be regulated?
- Waste products will be stored in sealed containers which demonstrates Cuadrilla have no idea how to treat waste
- Toxic waste will be stored near schools and residential areas
- Risk of children jumping into a cavern of chemically poisoned water
- Potential unknown hazards will be transported on roads as the waste will not have been analysed instantly on site.
- US have documented accidents and spills from transportation of shale gas waste materials.
- Is there sufficient security to keep hazardous waste from being misused.

Assessment

An assessment of the proposals has been carried out. With regard to inert, non-hazardous and hazardous waste associated with the construction, drilling, hydraulic fracturing, initial and extended flow testing and decommissioning it is considered that subject to compliance with the permits issued by the EA the quantities generated would not result in a significant effect.

The treatment of the quantity of waste water generated by the project would result in a significant effect and so mitigation to reduce this effect is proposed to include recycling of flow back water and staggering of operations. In particular there would be a requirement, wherever possible, to re-use the flow back fluid once the gas has been separated. This would reduce the amount of waste which needs to be disposed at an offsite facility. About 10-40% of the injected fluid is predicted to return to the surface.

The applicant proposes to leave some fracture fluid deep underground. The EA is of the view that leaving some of the retained fluid in situ is the 'Best Available Technique'. The EA has assessed the components of the fluid to be used in fracking process and is satisfied that it is non-hazardous. They are also satisfied that the fluid that would be retained underground would be non-hazardous and that over time the retained fluid would become indistinguishable from the water already present in the target formation.

Naturally occurring radioactive material (NORM) is present in many geological formations including oil and gas bearing strata such as shale formations. The flow-back fluid that returns to the surface following hydraulic fracturing as well as the sediments and scales in gas or water process vessels, is likely to contain sufficient NORM that it will be classed as radioactive waste. The level of radioactivity is considered to be extremely low. The EA has assessed the impact and proposals for NORM disposal and is satisfied that the applicant has demonstrated that it can have suitable arrangements in place with licenced waste disposal companies for its treatment.

Drill cuttings can be contaminated with hazardous waste. All hazardous waste must be stored in solid steel containers which are subject to inspections. The EA has advised that they are satisfied with the proposed arrangements.

With regard to representations received, it is considered that waste can be acceptably contained and that there are available facilities with capacity to accommodate the waste to which safe purpose designed transport would deliver it. The permit restricts the available storage on site and the continued production of such in the event off site facilities were unavailable. The site can be contained in a way top prevent discharge or over spill off site and provide secure storage facilities. The permit applies the necessary controls on waste quality standards. There would be no risk of migration of fracking fluids that could result in cross contamination of water resources and leaving fluids in the ground would not result in contamination in their own right. The waste is not toxic and would not be stored close to residential properties or schools and the site would be secure preventing unauthorised access.

Paragraph 122 of the NPPF requires that planning authorities should not seek to control processes or emissions were these are subject to approval under separate pollution control regimes and that LPA's should assume that these regimes will operate effectively. Nonetheless, paragraph 112 of PPG Minerals, notes that before granting permission the local planning authority should be satisfied that the issues dealt with under other regimes can be adequately addressed by taking advise from the relevant regulatory body'. The County Council has consulted with the EA and which has not objected.

The EA has granted the environmental permits needed to carry out the proposed operations. The permits set out the conditions needed to manage waste and NORM. Now permits are issued, the applicant will have to follow the proposed conditions that are designed to ensure that operations do not cause harm to people or the environment.

The EA is satisfied that the permit and associated conditions will require that extractive wastes are managed in a way that minimises harm to human health and the impact on the environment. The operator has demonstrated this through a waste management plan that accompanies the permit. The EA is satisfied that the proposals are in line with the waste hierarchy.

Conclusion

Resource and waste issues have been assessed by the applicant. It is considered that the quantity of inert, non hazardous and hazardous waste that would be generated along with the quantity of wastewater and industrial waste water would not result in a significant effect. The EA has been consulted and has advised on the regulatory regime that would be employed to manage the risks and that they are satisfied that that such risks could be managed in a way that would not cause any unacceptable impact. It is considered that the waste can be managed in an acceptable way. The County Council should assume that these regimes will operate effectively and can be satisfied that the issues dealt with under other regimes can be adequately addressed. It is considered that the proposal could be acceptably controlled by other regulatory regimes and would not have any unacceptable impacts and would comply with national guidance and policies and the policies of the development plan.