North Yorkshire Mineral and Waste Joint Plan

Examination in Public
February -April 2018

Submission by the
South Hambleton Shale Gas Advisory Group

(representing Helmsley town council, Easingwold and 32 villages Community Forum)

Responding to the request for further information
Re:

Policy M17 (4) (i) – justification of the 500m buffer around residential properties and other sensitive receptors

Additional comments in relation to policy M 17. 4. i

The inspector raised a concern on March 13th fearing that a blanket prohibition would reduce flexibility for the industry.
But this policy as drafted is not a blanket prohibition for it does contain an exemption clause i.e. "will only be permitted in exceptional circumstances"

But can there be exceptional circumstances?
500 m is little more than a quarter of a mile.
To locate a shale gas well involving Fracking within such close proximity of people's homes cannot comply with the government's intention to apply the… "very highest safety and environmental standards" (Amber Rudd 16th Sept 2105).

A local plan must take account of local circumstances.
So far within this Examination there appears to have been little if any regard for the wellbeing of local communities or residents and those natural attributes which are essential to the character of the PEDL areas of North Yorkshire.
We have to look to the current Plan to provide these safeguards!

We cannot envisage any circumstance where drilling operation could be acceptable within:

- 500m of one or two isolated dwellings
- 1.5 km from a settlement of any larger size
- 3 km from any such settlement on higher ground.

So we maintain our request for these offsets to be contained within the North Yorkshire Plan.

Do not be tempted to refer to 500m as merely a guide.
This fundamental principle of effective separation and safeguarding of communities should not be weakened by demoting it from policy to the explanatory text within the Plan, for this issue is absolutely crucial to local people their lives and livelihoods.

If the Plan is not clear on this point it becomes worse than useless due to the resultant confusion, argument, delay and expense for both residents and industry whenever applications are submitted in proximity to local communities.
It is wrong that a policy designed to safeguard local residents should place them on the back foot in having make a case for their defence.

UKOOG cited the west Sussex policy M7B as a worthy example, but we regard this policy as being hopelessly ambiguous. It requires compound tests:

Firstly to determine what is the least sensitive but most deliverable location vis. other potential sites. This would entail a potentially endless procedure likely to result in widespread and needless alarm and disruption.
Secondly, it places the onus onto local communities and the MPA to prove what may or may not be an acceptable adverse impact. Merely to state such a proposition is to reveal that it is impracticable in its operation and absurd in its contradictory concept.
The result -CHAOS
If this model is followed certainty and clarity will be sacrificed in the name of flexibility for the industry.
The industry in being able to drill laterally has a greater flexibility than local communities who simply have no option to move or re-locate.

Section 7 on the NPPF helpfully sets out the 3 elements of sustainable development (reproduced here)

7. There are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles:

- **an economic role** – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;
- **a social role** – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and
- **an environmental role** – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

We are merely ask that the NYMWJP policies do deliver a balance that:

1 safeguards the existing local tourist and agricultural economy and uses of "right type of land in the right places"

2 "supports existing strong, vibrant and healthy communities"

3 "contributes to protecting and enhancing our natural, built and historic environment"

In representing local councils who encompass differing opinions re shale gas extraction, this group does not oppose fracking; although the process is of increasing concern to residents, partly because of the ineffectiveness of planning control.

The policies within this Plan must:

1 Provide re-assurance that the “Interests of acknowledged importance’ will be safeguarded.

2 Be clearly interpreted so that the compliance of planning applications may be readily assessed by local communities without undue delay or expense.

If we are to coexist and not be overwhelmed, our communities must be able to rely on effective safeguards which provide reassurance that we are able to live without fear or impediment. Anything within 500 m would impinge and is likely to result in the adverse consequences of light, air &noise pollution also traffic and safety concerns. Our appendix paper sets out examples of set backs which apply elsewhere.
To disregard them, merely because they are not yet applied in the UK, is to fail to address the issue posed by a new industry.

To date the industry has adduced no evidence to controvert the evidence provided on 13th March and again now in support of our arguments. Both upon this issue of Policy M 17 and elsewhere (e.g. Policy M 16 and Policy M 18) UKOOG has relied exclusively upon the mantra of "flexibility" without showing any real need beyond that which the Plan would permit. This EIP should not shy away from determining these issues on a rational and evidential basis, as opposed to the impossibility of giving "equal weight to all evidence", because to do that would be "Wednesbury unreasonable" and a material irregularity in the exercise of its quasi-judicial function.

South Hambleton Shale Gas Advisory Group
March 28th 2018

Appendix

Justification of a setback (separation distance) between shale gas operations and dwellings or other sensitive buildings.

Representatives of the UK shale gas industry have claimed in open session that there is no justification for fixed, or indeed any separation of fracking operations from dwellings or other buildings.
The South Hambleton Shale Gas Advisory Group, an independent group representing the interests, and speaking on behalf of 30 parish councils and 2 town councils, disagree with this claim.

We support the need for the strictly defined separation (or 'setback') of fracking operations from dwellings and settlements, as proposed within the Minerals and Waste Joint Plan, produced by the three regional planning authorities of York City, North Yorkshire County Council and the North York Moors National Park Authority

Examples of setback regulations and guidelines in other countries

A review prepared for the Northern Ireland Assembly[i] in 2015 cited examples of statutory setbacks that are in place in Texas, Illinois and Colorado in the USA, and in New South Wales, Australia.

In the USA setbacks range from 500 feet to 1500 feet (approximately 150 to 500 metres) depending on location and operation.

New South Wales specifies a 2 km setback between coalbed methane operations and housing or possible housing expansion locations.

Guidelines on separation distances were produced by the South Australian EPA in draft form in 2000[ii] and subsequently implemented in full guidelines published in 2007[iii]. These guidelines include recommendations for separation distances from dwellings of 2,000 metres for a petroleum refinery, 1,500 metres for petroleum production, storage or processing works, 1000 metres for industrial gases, 500 metres for other petroleum or coal products and for refractories, 300 metres for temporary storage of industrial waste and for gas distribution works, 300 metres for extractive industries (raised to 500 metres with blasting, and noise separation distances of 3,000 metres), 300 metres for fuel burning, and 100 metres for transport depots.

The US NRDC (National Resources Defence Council), quoting Federal regulations, stated "no existing dwelling may be locate closer than 300 feet (91 metres) from an active or planned drilling site"[iv]. See also the US Department of Housing and Urban Development statement to support this[v].

In addition we understand from a senior professional in the petroleum sector that there is a Health and Safety Executive guideline that staff sleeping accommodation should be 1km from onshore petroleum operations (personal communication).

The fact that there appears to be no equivalent separation distance or setback established within current UK regulation on shale gas operations may be due to the absence of experience of such operations in the UK, or to the reliance upon case-by-case judgements by the regulatory authorities and individual case officers. However the latter risks subjectivity, lacks any kind of precautionary or safety minimum, and risks situations where political and financial pressures over-ride safety and health considerations.

Justification of setbacks based on seismicity

The shale gas industry has claimed that companies prefer to frack at geological faults because these areas are likely to be more productive for gas location and flow reasons.

Conversely, scientific publications report that hydraulic fracturing (fracking) around faults carries a significant risk of triggering earth tremors.

According to Prof Richard Davies of Newcastle University it is recommended that fracking points be at least 895 m from faults, or there is a risk of small earthquakes[vi]. Clearly such potential problems may lead to structural damage to housing and other buildings, and consequently this could carry potential danger to property, life and limb, as well as likely impact on the value of properties. Who will compensate householders for loss in value of their property due to either structural damage or loss of value?

Indeed, the first fracking of a well in the UK is known to have caused an earthquake felt at the surface[vii].

This information justifies at least a separation of 895 m from a fault location, but more crucially adds support to the establishment of separation of fracking operations from households to reduce risk of structural damage and human health.

A summary of the hazards associated with shale gas operations

Further justification of setting a distance between shale operations and dwellings come from the various hazards associated with the operations. Shale gas exploration and production operations involve the following potential and actual hazards and negative impacts:

1. Explosion
Whilst not inevitable, there have been explosions associated with some shale

operations in the USA and some precautionary protective measure should be in place. For a recent example in Ohio see this link[viii]

2. Air pollution and Odours
There is clear evidence of gaseous and other pollutants arising from shale gas operations. (see for example Webb et al[ix] and Goodman et al[x])

3. Noise and vibration
Fracking operations involve substantial heavy engineering (drilling operations and very heavy hydraulic pumping equipment, operating 24hours during a period of many weeks around each frack). In addition fracking involves many hundreds, into thousands of HGV truck movements per well and per frack.

Whilst the fracking industry claim disturbance from the fracking operation is only for a short period of weeks, there is a cumulative effect since typically 10 and up to 15 wells may be drilled per pad, plus the likelihood of 2 or more 'fracks' per well. This means that the activities of "a few weeks" could be repeated sequentially up to 30 or more times for a given pad, meaning in practice a continuous disturbance for many years (see point 8 below).

The UK Government's own advisory web page (Guidance on Fracking: developing shale gas in the UK[xi]) states that exploration is 2-6 months, moving into production 6 months to 2 years, and production 20 years, but makes the point that further wells may be drilled during the 20 year period.

4. Water pollution
Whilst shale gas wells themselves may be considered unlikely to contaminate ground water supplies, due to the depth of horizontal frack wells, there are significant risks from other source.

The operations use much heavy machinery, and the transfer of very large quantities of fluids. Water used in fracking has additives, but more seriously very large volumes of flowback fluid from wells contain contaminants such as hydrocarbons, heavy metals and radionuclides. Despite all assurances that the process is highly regulated, there is a high likelihood of spillage events during the 20 plus years of shale operations, which would adversely affect nearby land, aquifers and properties.

5. Seismic activity and earth tremors
Published scientific papers have shown that fracking near fault lines carry a risk of earth tremors, which present a risk of structural damage to buildings, and disturbance or even harm to people in nearby dwellings. See reference[vi].

6. Heavy traffic movement
The enormous burden of HGV traffic has been summarised by Goodman et al[x]. The effects of around a thousand HGV truck movements per well, per frack, would be devastating to dwellings and settlements close to drill sites.

7. Light pollution
Many rural parts of our region benefit from ‘dark sky’ at night, and absence of light pollution. 24 hour drilling and industrial sites will have a severe effect on this quality of life factor.

8. Cumulative impact
The shale gas industry companies have claimed that all of the above impacts are minimal and for only a short period of time for each well. However a more realistic scenario is that any one well pad would have at least 10 wells, and possibly even 15 or more wells, spread operationally over an extended time period, each repeat-fracked possibly two or more times, and that this activity is spread over at least a decade, perhaps 15 or 20 years, so that the cumulative effect is likely to be equivalent to that of 30 wells for any given site and over a very long period.

The UK Infrastructure Act stipulates that planning authorities must take account of likely cumulative effects of any application and other applications (Infrastructure Act 2015, Part 6, 50, 4A)[xii]

References and citations

[i] Northern Ireland Assembly, 2015

[ii] EPA separation distances draft guidelines, 2000

[iii] EPA final guidelines, 2007

[iv] NRDC ‘How far should oil and gas facilities be from a home’

[v] US HUD statement on gas well distance from housing

[vi] Wilson et al. Fracking: How far from faults?

[vii] ReFine briefing note

[viii] Ohio well pad explosion

[ix] Webb et al

[x] Goodman et al

[xi] BEIS: Shale gas and fracking

[xii] Infrastructure Act 2015