

Conventional and Unconventional Gas extraction

A resident's perspective.

This is the view of a resident of Ryedale where conventional gas extraction has been observed over many years and on research of unconventional gas extraction and the techniques required. It is not written in geological terms nor in gas industry language but quite simply the experience I would expect to notice in comparing what has happened with what I anticipate is likely to occur.

I would hope that the MPAs, guided by the Inspector, could find suitable "planning language" for the MWJP that recognises the very real negative impacts on amenity, health and quality of life and seeks to protect residents from these in a way that balances these factors while supporting the gas industry objectives.

CONVENTIONAL gas extraction has taken place in Ryedale for a number of years and is, by my understanding, accomplished by drilling a single well bore into the gas bearing reservoir of porous rock from which the gas flows into the well bore because it is under pressure and, most importantly, that strata is porous. The gas continues to flow for a number of years with only occasional cleansing of the well bore with fluid at low pressures.

The consequences of this for residents is that they experience some significant negative impacts during the 24 hour continuous drilling phase for 3-4 months then very little disturbance over the remaining life of that well, which could be many years.

Contrast that with UNCONVENTIONAL gas extraction from rock which is deeper and crucially is non porous requiring the gas contained within this rock (shale most commonly) to be forced out by mechanical means, using extremely high pressure injection of fluid (between 500 and 1000 times greater than atmospheric pressure).

The initial period of impact is during the 24 hour continuous drilling phase, which in itself takes longer because the well is deeper and will extend laterally for some distance in order to maximise recovery. This could be 4-6 months for each well bore.

The gas then has to be forced out using explosive charges and high pressure injection of fluid to force open fissures in the rock. Only then does gas start to flow but this is always restricted by the non porous nature of the rock and so gas flow rates decrease rapidly and within a matter of months will have

reduced significantly and this decrease in flow rates continues for the life of that well.

This rapid decline in gas flow necessitates the drilling of a further well creating another 4-6 month period of negative impact for residents caused by the 24 hour continuous drilling and all the associated truck movements.

We have been told that every well pad could have 20-30 well bores each requiring months of drilling so that residents nearby could have to endure many years of significant nuisance as well as be at risk of any cumulative environmental health impacts.

Most wells leak to a greater or lesser degree, the greater the number of wells on a pad, the greater the risk for residents, (see pp 114-125 Compendium of Scientific, Medical and Media Findings of Risks and Harms of Fracking March 2018 by Concerned Health Professionals of NY). The epidemiology may not yet be beyond challenge but such a growing body of research cannot be ignored when the industry can point to no locations where claims of harm have not arisen.

If each of those newly drilled wells had any form of flaring associated with it the visual and noise nuisance as well as the climate change impact would be significant and continue for many years. Any flaring of waste gas should be strictly controlled and the gas used to generate power or heat homes. This "green" or reduced emission completion is a requirement of the EPA in the United States, why do we resist learning from elsewhere ?

We have been told that the industry seeks multiple well pads in each PEDL area and have admitted they can only reach 2km laterally from a vertical well bore. That is a current engineering limitation for the industry, the solution to which is for the industry to find, not simply inflict greater nuisance upon residents because of their failure to do so.

The MWJP must provide the industry with the opportunity to recover gas but that should not be at the expense of inflicting a nuisance on residents for many years, adequate protection for residents must accompany the granting of access for the gas industry through strict conditioning and realistic buffer zones.

The MWJP should recognise this is a novel industry for the UK and existing planning guidance may quite simply not be adequate to fully reflect the nature of the industry and the forms of protection for residents that is required. It is worth noting that until 2011 and the induced earthquakes near Blackpool the

UK had no regulations or guidance on seismicity. It was only after the errors were admitted by Cuadrilla that controls were introduced.

Why is it that the UK seems so unwilling to take learnings from elsewhere when this is a novel industry for which existing planning guidance may simply be inadequate ?

Not for no reason have a number of US and Australian states, as well as many European countries, imposed moratoria or outright bans, it is because there is a growing body of evidence of risk and actual harm.

This is not an evenly balanced argument and the overwhelming body of evidence points to risk of harm and it is for the Inspector to satisfy herself that the evidence has been weighed correctly and a sound plan submitted to the Secretary of State.

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