UPDATING Written Statement HCWS202 (WMS2015) **– and why Frack Free Ryedale** (FFR) **consider little (if any) weight should be attached to it**

FFR considers that the recent 'Talk Fracking'[1] Judgment illustrates why little weight (if any) should be attached to The Written Ministerial Statement made by Amber Rudd MP on 16 September 2015.

FFR have considered the most recent Written Ministerial Statement of 23 May 2019 HCWS1586 (WMS2019) which deals with the quashing of para 209a of the NPPF 2018. It states 'This suite of policies and guidance remain material considerations in plan making and decision taking for hydrocarbon development and they should be afforded appropriate weighting as determined by the decision maker" - in relation to section 17 of the NPPF, the PPG and the WMS's (WMS15 and WMS18). It has to be remembered that in accordance with Section 38(6) of the Planning and Compulsory Purchase Act 2004, any future application should be determined in accordance with the development plan unless material planning considerations indicate otherwise. The NPPF is a material consideration to be taken into account in the planning process, for both plan-making and decision taking. The revised NPPF sets out the Government's planning policies for England and how these are expected to be applied. It has been consulted upon and is to be treated as policy (with the exception of paragraph 209a). WMS's are effectively statements of the Government's intent for a particular topic. Whilst they are to be treated as material considerations and given 'due' weight as required in the planning system, they do not trump the primacy of the development plan or indeed the NPPF, therefore, must be treated as advisory at best when adopting the MWJP.

This is highlighted by David Wolfe QC[2] in his statement made after the judgment in the 'Talk Fracking' case. In particular David Wolfe QC says in his summary '*In other words, a Minerals Planning Authority (MPA), or an Inspector considering an application for planning permission for a fracking development, is no longer constrained by a WMS as was sometimes suggested before*'.

David Wolfe QC advises FFR 'What also emerges from Dove J's judgment (paragraphs 70-72) is that, contrary to the approach that has previously been contended for in relation to the WMS (and was essentially followed by the Inspector and Secretary of State in the Preston New Road planning appeal as discussed in Dove J's judgment), a plan-maker or other planning decision-maker is bound to consider and evaluate arguments and evidence which go against the Government's support for fracking set out and explained in WMS15. In his paragraph 72 Dove J (proceeding for the purpose of this bit of his judgment as if NPPF paragraph 209(a) was operative) explained that:

> "I therefore accept Mr Warren's submission that in individual decisions on plans or applications the in principle support for unconventional hydrocarbon extraction, provided by paragraph 209(a) of the Framework, will have to be considered alongside any objections and evidence produced relating to the impact of shale gas extraction on climate change. These are conflicting issues which the decision-maker will have to resolve."

[1] Claire Stephenson - v - Secretary of State for Housing and Communities and Local Government (INS/12)
[2] https://www.frackfreeunited.co.uk/fracking-UNLAWFUL

That argument applies equally to WMS15 in the context of plan-making, as here. That is why, as we explain below, the Inspector here needs to consider and evaluate the up to date evidence and understanding of the impacts (etc) of fracking and, in the light of those things, should place very little weight on the Government's support for fracking set out in the – now very out of date – WMS15.

What is also important arising from that judicial review is that the Secretary of State's argument was simply that he did not need to look at the updating materials (which Dove J was not a lawful approach). The Secretary of State did not, however, go on to argue (as he might have done) that, by virtue of section 31 of the Senior Courts Act 1981 the court should nonetheless leave paragraph 209(a) in place on the basis that it is "highly likely" that the result would have been the same even if he had looked at the updating materials. That is very significant because that was the Secretary of State's opportunity to say – perhaps having looked at the updating materials in the course of the court process - that his decision not to look at those updating materials would anyway not have led to a change in Government policy. We have no doubt that, had the Secretary of State thought that to be a good argument, he would have deployed. The fact that he did not means that this Inspector absolutely cannot accept any submission now to the effect that the new materials add nothing and WMS15 can still be taken as current and appropriate in its stance on fracking'.

Turning then to the substance of the points in relation to WMS15 and the new materials, FFR have taken the format of WMS15 and have followed it in making this response.

FFR would ask the Inspector to consider the following further points of evidence considered by FFR in arriving at their point of view. Some points have been referred to in previous FFR responses however it is sensible to include some of this information and how it is relevant in assessing the weight that should be given to WMS15. This demonstrates the wealth of current evidence which contradicts historic data relied on in WMS15 (as set out in the references section at the end of the WMS15).

1. It is clear to FFR thatUK National policy is in need of urgent updating (see the final point relating to WMS15, point 32) however that is beyond the scope of FFRs response. The WMS15 is clear that there is a 'national need to explore our shale gas an oil resources', although the effect of the 'Talk Fracking' case (as explained above) calls into question both the weight that Mineral Planning Authorities (MPAs) should give to the WMS15 and requires the consideration of other evidence relating to fracking.

2. WMS15 has been based on data which is at least 5 years out of date. The statement disregards proven sources of energy which are now available at competitive cost ie renewables versus the potential of exploration and development of a shale gas industry. Renewables are now supplying 33.3% of the UKs generated electricity (see footnote 9).

3. The Committee on Climate Change (CCC) has reported clearly[3] that any hydrocarbons produced can only displace imports but in doing so they must not increase our consumption overall. The report's executive summary discusses the three tests that have to be passed to enable shale gas to be compatible with UK climate change commitments (based on an 80% target in 2050, this is even more important now the UK has undertaken a net zero policy- see the final point 31). This was reinforced with further CCC commisioned work from the Grantham Institute[4] which demonstrated that it is an essential requirement for the UK to have a fully developed Carbon Capture and Storage system[5] (CCS) network in order that UK CO^2 emissions can be sequestered responsibly.

4. FFR considers CCS technology is in its infancy[6] and will not be operational until 2021 at the earliest, and then only in respect of one project. So CCS is unproven at large scale the costs are unknown and it is needed urgently. It is fair to say that CCS underpins the Government's strategy in respect of their aim of 'Clean Growth Strategy'[7] as it is mentioned twenty five times in that report.

5. The WMS15 also relies on estimates of our likely gas imports, this is forecast regularly by the Government as part of the 'Energy Trends' quarterly publications and the annual review of Energy statistics in the 'DUKES' review published annually towards the end of July. In WMS15 the percentage figure of gas the UK would need to import is stated as 75% by 2030. This FFR accept was an estimate made at that time of WMS15 however it is noted that in an OGA report in March 2019 it states this estimate to be 64%[8](see both the Executive summary and the table on p12). If one takes a long view at the energy statistics it is clear that the background has been one of long term falling demand, for example the demand for electricity is down 14% since 2008.

6. In terms of energy security all the Government's publications discuss how we are secure due to our ability to produce some hydrocarbons ourselves but also because the UK has inter connectors and pipelines to various neighbouring European countries (principally Norway, France, Holland, and Belgium)[9] and in addition UK has LNG terminals thus giving us a diversity of supply. This is discussed in the Government's Energy Trends March 2019 report (see footnote 9) and in particular in the reports summary paragraph on p58. Independently of Government it is generally agreed that unless there is a Western European conflict there is little that threatens

[3] theccc.org.uk/publication/onshore-petroleum-the-compatibility-of-uk-onshore-petroleum-with-meeting-carbon-budgets/

[4] theccc.org.uk/publication/imperial-college-grantham-institute-shale-gas-analysis-for-the-ccc/

[5] CCC on CCS refer to report in footnote 2 from pp38-43

[6] gov.uk/government/news/uks-largest-carbon-capture-project-to-prevent-equivalent-of-22000-cars-emissions-from-polluting-the-atmosphere-from-2021?utm_source=92195cc8-4145-4068-8d03-e1a4342fc9e1&utm_medium=email&utm_campaign=govuk-notifications&utm_content=immediate

[7] assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf

[8] nstauthority.co.uk/media/5382/oga_projections-of-uk-oil-and-gas-production-and-expenditure.pdf

[9] assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/791293/Energy_Trends_March_2019.pdf

our current security of supply.[10] FFR also consider that it is important to remember the Strategic Government report of 2017[11] which states we have security of supply for 20 years. The report does not consider any shale gas in their calculation as BEIS considers it impossible (on page 29) in their review report[12] to provide any meaningful estimate of shale gas potential for the purpose of the strategic assessment document referenced in footnote 11. Also see FFR's comments in Appendix 1 relating to UKOOGs report of March 2019 update (which gives the UKOOGs interpretation and extrapolation from the initial exploration drilling at Preston New Road).

7. WMS15 discusses the potential of 'Economic benefits' although again this is based on a report produced by EY in 2014[13]. Given the projections made in that report FFR believe it can no longer be used as credible evidence as it is clear that the estimates and scenarios in the report have been proven not to be true, purely by the passage of time and events. Freedom of Information requests have shown that an internal Government report onsidered that the EY 2014 report exaggerates the economic benefits and is out of date.[14]

8. WMS15 also relies heavily on the BGS document[15]. BGS estimates are exactly that – to date the industry has not shown how accurate these estimates are, or if the gas can even be extracted comercially. So we are no closer (6 years on) to estimating what the 'reserve' [16] actually is with any degree of accuracy.

9. WMS15 relies solely on the MacKay and Stone paper relating to the estimated carbon footprint of shale gas[17]. This was relevant in the 'Talk Fracking' case but also illustrates the wider point arising from WMS15 being so out of date. On the particular point of Carbon footprint, it is clear that the Government considered (for WMS15 as much as for NPPF 209(a)) no other evidence on this matter such as (but not limited to) that highlighted in the 'Mobbs Report'[18] quoted in the aforementioned case. It is the method used to assess the amount of emissions that is one of the main issues - as the two methods available, the 'bottom up' and 'top down' methods, produce very different estimates of emissions. This materially affects the data analysis and calculations made in Mackay and Stone's report. FFR recognises that both CCC's and MacKay and Stone's concerns are that any UK shale gas industry must not lead to an increase in global emissions. However FFR agree with Mobbs conclusions (on page 21 of the report, paras 124-134) and do not accept that the emissions have been accurately estimated.

[10] ukerc.ac.uk/asset/30D43478-50D2-406F-985EFA9173D8661A/ (URL no longer exists)
[11] gov.uk/government/publications/gas-security-of-supply-strategic-assessment-and-review
[12] assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/652085/gas-security-of-supply-review.pdf
[13] ukoog.org.uk/images/ukoog/pdfs/Getting_ready_for_UK_shale2_gas_FINAL2022.04.14.pdf
[14] See Appendix 1 item 2, footnote 4
[15] nstauthority.co.uk/media/2782/bgs_decc_bowlandshalegasreport_main_report.pdf
[16] nstauthority.co.uk/media/2784/resources_vs_reserves_-_note_-_27-6-13.pdf
[17] assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/237330/MacKay_Stone_shale_study_report_09092013.pdf
[18] theecologist.org/sites/default/files/NG_media/404161.pdf

10. It is clear from evidence (principally from the US) that methane emissions have been greatly underestimated[19] and these emissions will have a significant contribution to make in respect of global warming particularly in the short term.[20]

11. Research work is continuing and current ground breaking satellite imagery and data is being analysed showing the extent of methane in the atmosphere.[21] The evidence undermines the reliance on the approach taken in the MacKay and Stone report which was the only evidence cited by the UK Government on this contentious subject.

12. David Wolfe QC has advised FFR 'As for the wider point which that illustrates: Government has not considered any new evidence since WMS15 as part of a wider review or update of planning policy; let alone in any open or transparent way which would have enabled others to comment. Indeed, that was the very essence of the Secretary of State's response to the Talk Fracking legal challenge: Government had not considered, and was not in the NPPF process considering, any challenge or update to the technical thinking which lay behind WMS15. As explained above, that process is now to be done through the planning system in individual plan-making and decision-taking based on the materials available to the decision-maker while recognising that WMS15 is necessarily out of date'.

13. It is accepted that fracking is a new or nascent industry in the UK. FFR consider that the WMS15 states in relation to shale gas that '*this must and can be done whilst maintaining the very highest safety and environmental standards*' is an effort to offer 'reassurance' to the public in general. However it is clear that the so called 'gold standard' or 'world class' that our Government talk of in terms of UK regulation is neither. For example in the report following air quality monitoring at Kirby Misperton[22] it is clear that the frailty of monitoring was noted with monitoring equipment experiencing failure and damage, thus preventing full collection of data.

14. It was also noted that following the monitoring programme that air quality in what is a rural village had been changed to the air quality of an urban area (Bootham York) while site activities took place.[23] Note no hydraulic fracturing has taken place to date at Kirby Misperton so this was as a result of preparatory works only at the KM8 site. This was mentioned and evidenced in FFR's 10 January 2019 submission at 13.5 in the document. It is appropriate to remind the Inspector of the noise exceedances at Kirby Misperton that were large enough to stop activities on site overnight, as evidenced in FFR's response on 31 Jan 2019 at 1.2 (including figure 1) following the additional inquiry hearing day on 24 January 2019. The Government's Air Quality Expert Group reported to DEFRA on air quality in relation to fracking development (the report was drafted in 2015) however the publication of the report was delayed until 2018. FFR are

[19] uk.reuters.com/article/us-usa-methane/u-s-energy-industrys-methane-gas-emissions-underestimated-by-epa-study-idUKKBN1JH2TP (URL no longer exists)

[20] Methane and the greenhouse-gas footprint of natural gas from shale formations, Howarth et al., Climatic Change, vol.106

[21] https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2018GL077259

[22] https://nora.nerc.ac.uk/id/eprint/517889/1/OR_17_049__PhaseII_Final_Report_280917.pdf

[23] https://nora.nerc.ac.uk/id/eprint/517889/1/OR_17_049__PhaseII_Final_Report_280917.pdf

concerned most with the local impacts and would direct the Inspector to p42 section 6.3.[24] FFR also note the other key issues raised in the conclusion of the report relating to setting accurate baselines and the significant impact on air quality found in US studies.

15. Other areas of the UK have seen limited shale gas projects carried out most notably at the Preston New Road (PNR) Site, Little Plumpton, Lancs. It is clear that seismicity is an issue in respect of the site operations on a fracking site and at that site seismic events triggered the 'Traffic light system' (TLS) multiple times.[25] The operator is lobbying for a relaxation (an increase in the seismic limits) of the TLS[26]. There is new information just released by Cuadrilla in relation to their initial works at PNR as they are seeking Hydraulic Fracturing Consent from the UK Government for their second well at PNR. This clearly demonstrates a relationship between injection activities and induced micro-seismicity.[27]

16. At PNR cold venting of gas (not allowed according to the Environmental Permit conditions) took place[28], and the operator was also not monitoring methane in accordance with its permit conditions. In addition Cuadrilla have not been monitoring groundwater properly either.[29] This demonstrates there are common issues occurring with operators who all claim to be able to operate within the regulations.[30] [31] [32] Another example is at the site at West Newton, East Yorkshire where there were several breaches around odour, flaring and management systems which breached permit conditions. In the interest of balance the operator's published response is cited.[33] So it is clear in relation to the breaches at West Newton that the operator's view on this is 'as this is new regulation and it is an exploration site the industry and regulators must get together to essentially make it up as we go along'. FFR could quote many other examples but the examples quoted illustrate that despite the industry claims that they can operate within the regulatory system without breaches it is clear that the evidence shows otherwise. Hence the

---

24 https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1807251315_AQEG_Shale_Gas_Extraction_Advice_Note_vfinal_for_publishing.pdf

25 https://drillordrop.com/2018/12/11/series-of-tremors-at-cuadrillas-fracking-site/

26 https://drillordrop.com/2019/02/06/cuadrilla-fully-fracked-only-5-of-shale-gas-well-calls-for-urgent-review-of-tremor-rules/comment-page-1/#comments

27 https://drillordrop.com/2019/07/04/cuadrillas-fracking-data-released/

28 https://www.bgs.ac.uk/news/item.cfm?id=9410

29 https://consult.environment-agency.gov.uk/onshore-oil-and-gas/information-on-cuadrillas-preston-new-road-site/supporting_documents/190603%20GW%20Monitoring%20CAR.PDF?fbclid=IwAR3zwHdRPvzNrur0L318uviU7vMxjVJvYlCtrzGuDrQ70Omw9yQ3ausr1aY

30 https://drillordrop.com/2019/05/21/cuadrilla-breached-permit-over-venting-unburned-methane-at-lancashire-frack-site/

31 https://consult.environment-agency.gov.uk/onshore-oil-and-gas/information-on-cuadrillas-preston-new-road-site/supporting_documents/Preston%20New%20Road%20Compliance%20with%20Permit%20Assessment%20Report%2027.02.2019%20_%20Flare%20Operations.pdf

32 https://www.desmog.com/2018/10/29/fracking-company-cuadrilla-breached-environmental-regulations-seven-times-10-months/

33 https://drillordrop.com/what-went-wrong-at-west-newton-rathlin-energy-response/

community is justified in both their scepticism over claims around our regulations in WMS15 and in their call for greater protection from these unacceptable impacts. In all of the quoted examples the operators were found to be in breach, but they were only reprimanded well after the events had occured, there was no form of sanction placed on the operators, and we now have more methane and other emissions released adding to our ever warming atmosphere. This is not what the wider community understands to be either 'gold standard' or 'world class' and leads logically to a need to adopt a precautionary principle approach which could be the subject of periodic review throughout the life of the plan.

17. It is not just environmental breaches but also breaches of planning conditions that have occurred at most sites. For example at PNR there were multiple breaches of the traffic management plan.[34] Many of the breaches were only noted because of community monitoring and FFR has provided evidence relating to this in their earlier responses.

18. Further research has been carried out in relation to seismicity which is categoric in respect of advice relating to fracking in former coal mining areas.[35] Fracking is considered inappropriate in such areas.

19. The Royal Society has been asked by the Government to provide a 'bibliometric'[36] in respect of papers relating to shale gas carried out since the publication of the Royal Academy of Engineers report carried out on behalf of the Royal Society in 2012[37]. This 2012 report has not been reviewed since it was written. A bibliometric will be merely the compilation of a list of papers – not a review of the content, conclusions or recommendations of those papers.

20. Public Health England reported on health in June 2014.[38] However despite many papers relating to health effects in other parts of the world[39] (see the latest updated Concerned Health Professionals of New York compendium) PHE have not updated their advice. The PHE report assumes there would be only low impacts 'if the operations were properly run and regulated'. This assumption is inconsistent with the facts, in FFRs view, to consider our regulations are better than those in the US (the country that is actually providing us with the technical papers and therefore 'best practice' to carry out fracking – see para 27 below) is not logical and is preventing a proper assesment of the health risks being made. The shale gas industry has been through intensive development in the US and the health effects are starting to show in areas where proper research has been done (see point 21 below).

21. The health reports have covered many health related topics and have conclusions that show health effects are increased (in a negative way) where people live closer to fracking sites. These

34 https://www.desmog.com/2017/10/24/cuadrilla-s-fracking-vehicles-took-wrong-turn-115-times-3-months/
35 https://www.keele.ac.uk/media/keeleuniversity/facnatsci/schgge/news/2018/Fracking%20and%20Mining-%20Styles%202018.pdf

36 https://royalsociety.org/topics-policy/projects/bibliometric-analysis-of-shale-gas-research/
37 https://royalsociety.org/-/media/policy/projects/shale-gas-extraction/2012-06-28-shale-gas.pdf
38 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740357/PHE-CRCE-009_3-7-14.pdf
39 https://concernedhealthny.org/compendium/

have been peer reviewed and concern increases in asthma,[40] effects on pregnancy and childbirth,[41] cardiovascular and neurological conditions.[42]

22. Despite the mention of public information WMS15 FFR knows of no evidence of any 'transparency' or provision of 'balanced' information to the public. In fact before WMS15 was formulated there was (based on the Guardian article referenced) little transparency at all.[43] This is also evidenced by the lack of any wide ranging real time monitoring and information at operational sites and obfuscation at regulators 'drop in' events. FFR believe the lack of transparency is further seen by the continued delay in any balanced reporting, for example the delay in publishing the Air Quality Expert Group's report as discussed above at point 13. Also the very Judgement that has given rise to this further consultation (see footnote one) is a serious example of unlawful action by the Government in relation to consultation, evidence and guidelines.

23. Relating to community payments - this part of the WMS15 stands outside of planning legislation. It is still uncertain as to how the scheme would work or be 'enforced'. A Shale wealth fund is mentioned in WMS18.

24. As for the improvements to the planning system currently (at the time of compiling this response) decisions are still made at a local level and FFR hope this will continue to be the case. FFR consider it would be prudent to be able to review local economic impacts at various stages in the planning process and in any Minerals Plan given this is a nascent industry. As stated in point 21 there are outstanding consultation responses due from the Government which may break the link with local decision making. FFR have found that within the planning system there is some transparency in terms of information, although it has become increasingly frustrating to see operators make last minute (material) changes to their plans and documentation in public inquiries and planning applications[44]. FFR consider it sensible that MPAs should be reimbursed for the additional costs incurred due to the complexity of determining Shale gas applications and FFR supports MPAs being reimbursed to reflect the comlexity of shale gas applications.

25. 'The safety and environmental standards……which we have established with a world-leading framework for extracting oil and gas for over 50 years' quoted in the WMS15 is questionable for example what about 'Piper Alpha'[45]. This was 31 years ago and there have been other subsequent problems offshore. It has to be remembered that much of our regulation exists as a consequence of this event. FFR have mentioned in previous evidence submitted about shortcomings at Preese Hall in Lancashire (the first case of fracking in the UK). On the subject of the UK offshore industry it is noted that decommisioning costs are increasing and it is clear that

[40] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5424822/
[41] https://www.jhsph.edu/news/news-releases/2015/study-fracking-industry-wells-associated-with-premature-birth.html

[42] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0131093
[43] https://www.theguardian.com/environment/2014/jan/17/emails-uk-shale-gas-fracking-opposition
[44] https://drillordrop.com/2019/05/30/great-wall-of-ineos-blocks-woodsetts-views/
[45] https://www.thechemicalengineer.com/features/piper-alpha-the-disaster-in-detail/

the industry and Government have underestimated the costs required.[46] These costs of decommissioning will need to be paid for and the costs are substantial (midway estimate is £58.3billion) and will be partly paid for through industy tax reliefs to the tune of £24billion (ie UK taxpayers will be paying for this).

26. On the subject of decomissioning onshore FFR are concerned about the lack of any clarity as to who is liable to pick up the cost? This is particularly relevant where an operator is no longer in business (not uncommon in North America). What therefore is the liability of the landowner? This question (along with others were posed by Lee Rowley MP to the Public Accounts Committee hearing at Westminster on 11 Feb 2019. The civil servants responses in evidence at the committee hearing were unclear but were the subject of further clarification in a subsequent letter from the Permanent under Secretary in March 2019.[47] It is clear the Government consider that landowners have insurance cover for such remdiation costs[48]. FFR have spoken to local agricultural insurance brokers (experts in their field) and understand that such clauses are currently not standard (or available) in landowners insurance policies.

27. The technicalities of the fracking process are informed as one would expect by information derived from the experiences in the US, it is the most experienced country in the world as far as unconventional gas/oil extraction is concerned. That is why UK Onshore Shale Gas Well Guidelines [49] (provided by the industry organisation UKOOG) is to a large extent based on American Petroleum Institute advice. Consequently FFR believe this justifies the use of information from the US and that US evidence is valid in all areas of the fracking debate. It is noted that much of the evidence quoted by the industry in their reports on this subject area quote overseas evidence (predominantly from the US).

28. There are 3 regulators in England the EA, HSE and OGA. The UK Government have now created a virtual shale regulator by bringing these together as the Shale Gas Environmental Regulator Group (SERG)[50]. This is part of the Governement bringing in their manifesto commitments from their 2017 election manifesto (page 23).[51]

29. The Infrastructure Act 2015 only prevents surface working in National Parks and AONBs – drilling underneath our most protected and most valuable natural assets is allowed.

30. Transparency receives a second mention in WMS15 yet further evidence such as the UK Government's delayed response in respect of the consultations carried out following WMS18 is

[46] https://www.rigzone.com/news/north_sea_decommissioning_costs_on_the_rise-19-jun-2019-159103-article/
[47] https://www.parliament.uk/documents/commons-committees/public-accounts/Correspondence/2017-19/Corresp%20-%20BEIS%20-%20Letter%20%20from%20Alex%20Chisolm%20to%20Meg%20Hillier%20MP%20on%20Public%20cost%20of%20decommissioning%20oil%20and%20gas%20%20follow-up%20-%20190225.pdf
[48] https://publications.parliament.uk/pa/cm201719/cmselect/cmpubacc/1742/174206.htm
[49] http://www.ukoog.org.uk/images/ukoog/pdfs/Shale_Gas_Well_Guidelines_Issue_4.pdf
[50] https://www.gov.uk/government/groups/shale-environmental-regulator-group
[51] https://www.conservatives.com/manifesto

still awaited at the time of writing. The consultations are in relation to exploratory drilling coming under the auspices of Permitted Development[52] (PD) and another consultation in relation to making Shale Gas production subject to the Nationally Significant Infrastructure Projects (NSIP)[53] regime.

31. The thrust of the later parts of WMS15 is to reassure but with no reference to evidence. FFR are of the opinion that the Governments aim was to provide momentum to ensure exploration was moved along promptly. The facts that are given in this response demonstrate clearly that the greatest weight of evidence requires a precautiounary approach to be applied.

32. This takes us back to point 1 above as WMS15 will (obviously) not take into account the fast changing background ofcurrent legislation passing through Parliament in relation to UK emissions and more generally Climate Change Commitments.[54] This must have a bearing on all related National Policy as well as all the plethora of associated legislation and accompanying targets

So in considering the WMS15 against actual evidence that is up to date (and continues to grow) and cited throughout this response (and that submitted previously now listed in Appendix 2) it is clear the weight that should be apportioned to it by the Inspector can only be extremely small. All of the evidence demonstrates that much more recent evidence needs to be considered using a precautionary approach.

FFR have previously provided responses with evidence in respect of buffer zones. It is accepted when the nuisances of this form of development are considered the best mitigation from those effects is being as far away as possible from the source of the nuisance. This is irrespective of what the nuisance is - noise, light, emissions etc. Therefore if development is applied for within 500m of receptors FFR consider a higher bar in relation to the protection of those receptors must be set.

FFR is strongly of the view that their opinion is correct given the very considerable body of evidence which seems to be contrary to the statements contained within the WMS15. Add to this the changing Climate Change background and much of the advice and scenarios are going to have to take another step change to meet our new 'net zero by 2050' commitments (ie further changes in our emissions targets will need to be made both in terms of actual scale of the reduction of emissions and in a shorter timescale). The CCC in their latest report made it abundantly clear that the UK is falling behind on their commitments.[55]

[52] https://www.gov.uk/government/consultations/permitted-development-for-shale-gas-exploration
[53] https://www.gov.uk/government/consultations/inclusion-of-shale-gas-production-projects-in-the-nationally-significant-infrastructure-project-nsip-regime
[54] https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law?utm_source=6597c536-7744-4ffc-9b05-477370f98500&utm_medium=email&utm_campaign=govuk-notifications&utm_content=immediate
[55] https://www.theccc.org.uk/2019/07/10/uk-credibility-on-climate-change-rests-on-government-action-over-next-18-months/

In respect of Written Ministerial Statement – HCWS690 on 17 May 2018 **(**WMS18) **– and why no weight should be attached to it**

FFR do not consider any weight should be attached to WMS18 for the following reasons

- it is repetitious of much that is already contained in WMS15
- it directly includes Conservative party commitments made in their 2017 election manifesto
- and large parts of the WMS18 signpost how those manifesto commitments will be brought about

It does not reference any new evidence and has not been consulted upon and therefore has no validity particularly following the 'Talk Fracking' case in relation to WMS15

In relation to the 'Andrews'[56] case it is clear that guidance is exactly that, and if an MPA has taken a different approach to that contained in guidance, provided the approach has 'proper justification' there is no reason why that would not be lawful. FFR have previously responded on this matter.

[56] CO/3256/2018 ANDREWS v SECRETARY OF STATE FOR COMMUNITIES & LOCAL GOVERNMENT

FFR discusses the UKOOG estimates in relation to UK onshore Shale Gas

In order to understand the approach and the inter-relation of the industry with the UK Government it is important to take a short chronological look back at shale gas estimates.[1] FFR recognise that an optimism bias not only results in an overly optimistic assessment but that that also fails to adequately take account of serious impacts and risks. FFR believe the potential to have been overstated when evidenced by events in the US and the lack of any data in the UK. FFR have also looked at which bodies are behind the reports and driving the timeline. Consider the following points

1. The timeline of reports in relation to the industry estimates of shale gas
    a. A report was prepared by the Institute of Directors (IoD) [2] in 2013 'Getting Shale Gas Working'. The report was sponsored by Cuadrilla – a Shale gas exploration company. The remit of this report (and those that follow in this section) 'This report examines the potential of a shale gas industry in the UK, and how to overcome thebarriers to its establishment and growth.In order to remain focused, this report does not examine the safety of hydraulic fracturing either in the UK or overseas.'
    b. UKOOG (the onshore industry trade body) commissioned a report from EY in 2014[3]. It follows on from the IoD report. The report was part funded by the UK Government with the remaining funding coming from the industry. The EY report was referenced extensively in the WMS2015.
    c. UKOOG produced a report in 2016[4] relating mainly (but not only) to the visual impact effects of Shale gas on the British countryside.
    d. Then in March 2019[5] (hereafter referred to as '2019 update') UKOOG produced updated extrapolations based to some extent on the EY 2014 report particularly in respect of estimates of the amount of gas and the economic benefits.

2. A subsequent UK Government study[6] stated the benefits of a UK shale gas industry had been exaggerated in many areas. As discussed in the main FFR response the UK Government does not consider it is possible to extrapolate any reliable estimates when assessing their strategic energy security reports (see point 6 in the main response document). This demonstrates that the Government considers the available information around gas estimates is highly speculative.

3. The various scenarios shown and discussed in the 2019 update are based on very limited information relating to the partially completed tests from Preston New Road Little Plumpton.

[1] https://www.gov.uk/government/news/getting-ready-for-shale-gas-supply-chain-estimated-to-be-worth-billions-as-new-environmental-measures-announced
[2] https://www.iod.com/Portals/0/Badges/PDF's/News%20and%20Campaigns/Infrastructure/Infrastructure%20for%20business%20getting%20shale%20gas%20working%20report.pdf?ver=2016-04-14-101231-553
[3] http://www.ukoog.org.uk/images/ukoog/pdfs/Getting_ready_for_UK_shale2_gas_FINAL2022.04.14.pdf
[4] http://appgshalegas.uk/wp-content/uploads/2016/05/Developing_Shale_Gas_and_Maintaining_the_Beauty_of_the_British_Countrysi....pdf
[5] http://www.ukoog.org.uk/images/ukoog/pdfs/Updated%20shale%20gas%20scenarios%20March%202019%20website.pdf
[6] https://www.independent.co.uk/environment/secret-government-report-ministers-exaggerated-fracking-boom-hydraulic-fracturing-greenpeace-a8205161.html

Following the operators (Cuadrilla) press release reporting on the initial results of their fracking operations UKOOG have increased some of the original stated benefits[7] of those contained in the EY 2014 report in their 2019 update. As the results of such operations are 'commercially sensitive' the public is reliant on the operator's press releases for information.[8]

4. The 2019 update relies on information that FFR consider incorrect and outdated – for example the Mackay and Stone report of 2013. An analysis of the references for the 2019 update report shows that over 40% predate 2017. The many scenarios considered in the 2019 update reveal many uncertainties and very different outcomes which demonstrates the lack of factual evidence.

<u>The Scale of the Industry</u>

5. There is great uncertainty regarding what the scale of the industry will be and the number of pads and wells that may be developed. The industry has put forward a combination of
    a. fewer large supersized pads with possibly 40 laterals on each pad
    b. together with other areas (dependant on geology), where there are likely to be smaller pads but at a higher density, with up to 11 pads per 10km by 10km licence block (see page 6 of the updated report).

6. There is no firm evidence to support how many pads or wells /laterals will be required or how well the gas will flow
    a. Even where high methane content is present in samples taken from a shale gas well, as at PNR, it does not necessarily follow that a high percentage of gas will be recoverable[9]
    b. This feeds into why UKOOG can not provide any updated costs in the report (second para on page 4 of 2019 update)
    c. The shale plays in the US have been the most successful in the world to date but they have encountered so called 'sweet spot' with varied[10], even poor results occurring elsewhere. It is the concerted exploitation of the 'sweet spots' that has led the growth of US productivity improvements and US operators accept this is a 'short cycle' approach
    d. It is not clear from information in the US (or from 2019 update) whether there have been any technological advances that will enable keeping up production levels when the 'sweet spot' is exhausted and only less favourable resources are available for exploitation. This highlights the speculative nature of this form of extraction and why estimates made must be taken with extreme caution[11]

7. As already mentioned the 2019 update contains many figures and scenarios. Figures from PNR are a simple extrapolation of unknown (to FFR) prelimanary figures. Cuadrilla claims that for PNR they only fracked 2 stages of a planned 41 stages and this demonstrates the uncertainty of exploration. So one fact is known, 5% of one well was actually fracked at PNR.

[7] However see point 5 below relating to costs – UKOOG unable to provide any revision
[8] https://cuadrillaresources.com/media-resources/press-releases/cuadrilla-shale-gas-initial-flow-test-results/
[9] https://www.wsj.com/articles/a-fracking-experiment-fails-to-pump-as-predicted-11562232601
[10] https://partners.wsj.com/ceraweek/connection/sweet-spot-key-shale/ see third para of article
[11] http://www.lfstechnologies.com/frackings-secret-problemoil-wells-arent-producing-as-much-as-forecast

8. What wasn't reported in the 2019 update was that there were over 50 seismic events [earthquakes] and this occurred with only that 5%(the 2 stages of the one well)having been fracked. So to give some context FFR have provided some extrapolations based on the figures available to the public
    a. A simple extrapolation shows that could result in 1000 earthquakes for a lateral of 800m (the planned well at PNR was an 800m lateral)
    b. Throughout the 2019 update report there is reference to 4000 wells. This means that the lifetime legacy of the industry could be 4,000,000 earthquakes, all of an unknown magnitude.
    c. It is known from scientific studies undertaken in the US and Canada that geologists do not fully understand and are still learning about the seismicity[12] caused by fracking or why events have increased in frequency[13], magnitude and at greater distances from well pads. Most of these fracking related seismic events started at relatively low levels of magnitude. FFR in their main response have referred to the work of Styles in relation to seismicity in coal mining areas (see point 18).
    d. There is increasing evidence that seismicity is being caused by the fracking process and not just by the re injection of waste water[14]
    e. With reference to the 4000 wells, the model quoted in the 2019 update is 100 pads with 40 wells each for a national roll out, this figure of 4000 has been taken from the EY 2014 report and used for consistency. If that is the case FFR are left wondering why finding sites for 100 well pads among 170+ PEDLs in the north of England alone is so much of a struggle for the industry that they claim to be unable to live with even a modest set back for precautionary reasons?

9. The UKOOG 2016 visual impact report also contained an assessment of both the number of pads and wells (this is also referred to in the update 2019), this quoted 7-11 pads per 10km x 10km PEDL and then stated that 400 pads with 10 laterals would reduce gas import dependency by 50%. On this basis 9 pads per PEDL would result in over 1500 pads in the north of England. This not only highlights the inconsistency in the 2019 update but exposes the potential scale of development.

10. Shale gas is unpredictable and does not uniformly produce in the way conventional gas does. This is recognised by the authors of the 2019 update as they stress that the assumptions made are preliminary and further validation by flow testing is required – however this is not treated to the same 'highlighting' as the headline items selected in the Executive Summary of the 2019 update. The authors admit in the body of the report that both surface and subsurface considerations will vary and that it is likely there will be a wide variation in the number of laterals per pad and envisage pads will be in place for 25 years. So the picture is one of great uncertainty overall - but that is not how the information is presented.

[12] https://www.sciencedaily.com/releases/2019/05/190502143353.htm
[13] https://news.stanford.edu/2017/12/12/small-earthquakes-fracking-sites-may-indicate-bigger-tremors-come/
[14] https://eos.org/research-spotlights/more-earthquakes-may-be-the-result-of-fracking-than-we-thought

11. As discussed in the main FFR response methane emissions[15] to air occur in this type of gas extraction. As 'Mobbs' has highlighted those emissions are calculated in a way that means they are a large underestimate of somewhere between a factor of two and four.

12. The impacts for local communities will be significant in all the scenarios put forward in the 2019 update. The uncertainties surrounding the scale and 'mixed' nature of development being considered in the 2019 update projections strongly supports decision makers taking a precautionary approach. As discussed at length in the main response the 'Talk Fracking' case evidence in respect of climate change must be considered. None of the impacts local communities face are addressed in the 2019 update proving it is not a balanced document. For example the UKOOG 2019 update has no reference to the Air Quality Expert Group report that was published (see FFR main response, point 13 footnote 24)and report's conclusions.

13. The UKOOG 2019 update is silent on the whole of this topic (the uncertainty of scale and cumulative impact), however a good overall view of the challenges of the shale industry is referenced here.[16] As referenced in point 1a above the reports only focus on the 'potential' of shale and not the reality to a local community, poorer air quality, noise, light pollution, increased traffic, and so on.

Financial considerations, Community Benefits, Long Term Liabilities

14. The industry makes many positive assumptions about the economic benefits that will be generated both locally and nationally. Yet fracking (unconventional hydrocarbons) in the US, which is a mature industry is heavily in debt (circa $2 billion) is unprofitable[17] and that is despite reduced production costs. Over 170 companies have gone bust. Wall Street has withdrawn all funding[18] and it will no longer fund fracking in the US because of the industry's failure to operate profitably.

15. Reports are emerging from Canada that a significant number of unconventional gas companies are going out of business and failing to meet their obligations to restore sites after production has ceased[19] [20]. This has led to protracted legal arguments, delays and complaints about contamination. Clean up costs are estimated at anywhere between $40-70 billion (see the end of CBC article in fotnote 11). This illustrates that a failed industry has the potential to have devastating local economic and environmental impacts. The FFR main response highlights similar escalating cost issues of decommissioning in the North Sea (point 25 in FFRs main response).

16. In the UK the question about responsibility for restoration and long tem liabilities and particularly where a gas company may either go bust or have insufficient funds has also been

[15] See section 9 of FFRs main response, footnote 9
[16] https://www.carbonbrief.org/qa-the-return-of-uk-fracking-and-what-it-could-mean-for-the-climate
[17] https://www.ecowatch.com/fracking-ceo-wall-street-journal-2638979229.html
[18] https://www.wsj.com/articles/frackers-scrounge-for-cash-as-wall-street-closes-doors-11559915320
[19] https://thenarwhal.ca/b-c-left-holding-massive-bill-for-hundreds-of-orphan-gas-wells-as-frack-companies-go-belly-up/
[20] https://www.cbc.ca/news/business/trident-exploration-aer-owa-oilpatch-1.5120486

raised. Lee Rowley MP questioned Senior Civil Servants and the Oil and Gas Authority on this matter at the meeting of the Public Accounts Committee on 11 February 2019. Point 26 of FFRs main response deals with this area. However the community payment scheme is a voluntary scheme which stands outside of the planning system and it is unknown how this will function but it is not designed to deal with any restoration or remediation issues. It is in effect designed to be compensation to the community for the negative impacts experienced in close proximity to fracking operations. FFR consider the entire basis of "community benefits" and restoration of sites is not fit for purpose.

17. It is noted that market for LNG has increasingly become a worldwide market with burgeoning growth bringing a wider availability of LNG.[21] It is clear that this has had a large effect on wholesale price of gas. This in turn will make it harder for the industry to secure investment and get schemes off the ground as it will impact the financial viability of such schemes. Developing a new shale gas industry in the UK will not effect to any degree the growth of LNG in the world market.

18. FFR sees fast developing change to both the climate change agenda and all things that feed into it. So for instance with the Government's aim to reduce emissions they have set targets to electrify motor vehicles by 2040. The UK will need to invest heavily in the National Energy Infrastructure, the grid, battery storage, smart use of the grid, while at the same time reducing gas use. Then there is Carbon Capture and Storage which must be developed at a large and commercially viable scale otherwise the UK will not be able to sequester CO^2 emissions responsibly. The UK will need to continue ensuring emissions continue to fall to arrive at net zero whatever direction that the disjointed national policy takes us. The development of a shale gas industry irrespective of how optimistic the projections are will not meet the tests of the CCC.

19. There are obviously many other factors affecting this and many developments taking place in relation to hydrogen[22] [23], ramping up renewables[24], community energy schemes are growing in number too. Obviously as a high proportion of gas is used for domestic heating changes are needed here too.[25] The background to all of this is one of fast changing technological advancement for which the UK currently has an outdated policy. This is highlighted in the CCC's latest report that states clearly that the UK is falling behind in respect of climate change commitments.[26] Developing this discussion further is beyond the scope of this response.

[21] https://uk.reuters.com/article/uk-britain-lng-imports-graphic/surging-lng-imports-drive-down-british-wholesale-gas-prices-idUKKCN1QZ1J4
[22] https://www.theccc.org.uk/2018/11/22/hydrogen-is-a-credible-option-for-the-future-the-uk-must-now-prepare-for-the-key-decisions-on-zero-carbon-energy/
[23] https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/
[24] https://www.gov.uk/government/news/offshore-wind-energy-revolution-to-provide-a-third-of-all-uk-electricity-by-2030
[25] https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/
[26] https://www.theccc.org.uk/2019/07/10/uk-credibility-on-climate-change-rests-on-government-action-over-next-18-months/

This is a list of additional evidence submitted and subject matter of footnotes cited by FFR in previous 'additional' responses since the Examination in Public hearing days commenced. For brevity evidence contained in FFRs initial hearing statements has not been listed, neither has any other evidence submitted by FFR throughout the earlier parts of the plan consultation process

03 April 2018

1. Abbreviation explanation (UKOOG)
2. *American technical guidance is used in UK Guidelines*
3. Reference recent US incidents at Shale wells – Appendix 4 table 3
4. Reference re the number of shale wells in the US
5. Reference re the number of shale wells in the US
6. Evidence in relation to increased Radon levels in Pennsylvania
7. *Evidence in relation to premature birth from US*
8. *Evidence of increased asthma attacks from US*
9. Evidence of migraine, nasal and sinus symptoms from the US
10. Compendium of Concerned Health Professionals of New York other 'health' examples referenced from the compendium
11. Resident of Kirby Misperton Statement – Appendix 1
12. Resident who left Kirby Misperton Statement – Appendix 2
13. Resident of Kirby Misperton Statement – Appendix 3
14. Diagram of KM8 location – Appendix 5
15. Evidence relating to Rig Height in Lancashire
16. Evidence relating to breaches of Traffic Manaement Plans – N Yorks and Lancs

19 July2018

1. FFR position statement to the Select Committee Report – Appendix 1
2. Comments relating to local plans and national guidance

10 January 2019

1. Evidence of noise exceedances
2. Reference to WMS15 – 'highest level of protection'
3. Reference to planning conditions
4. Relevance of evidence form outside the UK
5. Reference to permit breaches at Kirby Misperton
6. Reference to Cuadrill permit breaches at PNR
7. Reference to the industry wishing to change seismicity TLS limits
8. Reference to noise exceedances at Kirby Misperton, Figure 1 Noise barrier
9. Reference to Air Quality effects at Kirby Misperton
10. Reference to illustrative map
11. Industry fails to locate target at Tinker Lane (Figure 2 and Figure 3 Traffic issues)
12. Air Quality turned from that expected in rural location to that of an urban location

13. Reference to previous resident statements and effect on residents
14. Reference to previous resident statements and effect on residents
15. Reference to Medact report
16. Evidence relating to traffic
17. No footnote 17
18. Effect of traffic on residents (Figure 4 Traffic survey)

Appendix 1 – Map

Appendix 2 - Cuadrilla noise information

31 January 2019

1. Reference to map provided as an illustration
2. Evidence relating to noise exceedances
3. Figure 1 – noise exceedance from noise specialists log, Reference to where the noise consultant log is stored
4. Reference to photo of site, Figure 2 explanatory ariel photo show relationship of KM8 site to receptors
5. Reference to previous FFR submission
6. Reference to Cuadrilla and noise information in Appendix 1
7. Reference to Refine report which conclude average distance for a receptor from a hydrocarbon site in UK is 447m
8. Appendix 1 – Noise consultants comments attached as pdf