

Additional Hearings 24 and 25 January 2019

Matter: Unconventional Oil and Gas

Question 7

500m Buffer Zone

7. The MPAs should explain why technically a 500m zone was chosen as opposed to a smaller zone, and why any Plan-wide zoning is required at all rather than leaving it to a site by site assessment at the application stage.

The joint authority response to Q5 and Q6 demonstrates that sound levels from fracturing operations, with mitigation measures provided, are likely to exceed the acceptable daytime and night time level at distances of less than 600 metres from any plant. The response also concludes that such predictions are conservative as they do not consider the impact of other noise impacts which may also occur at the same time including traffic and vehicle movements nor any additional perceived noise impacts due to the effects of tonality, impulsivity, intermittency or other sound characteristics which can increase the significance of impact of any noise heard by a recipient.

As a result it is considered by the MPAs that at distances of 500m or less noise arising from hydraulic fracturing operations are likely to result in unacceptable impacts on receptors, unless additional mitigation is provided.

Further, the consideration of visual impact and light pollution under Q5 and Q6 demonstrates that there is a relationship between distance, height and lighting of the infrastructure associated within this type of development to the scale of impact wherein the resultant impact is likely to become more significant as the distance to the hydrocarbon infrastructure decreases. Furthermore, the evidence demonstrates that the gentle topography beyond the national parks, along with the dark skies experienced in the joint plan area make it particularly susceptible to change and therefore a pragmatic approach, as taken by the policy, to require demonstration that adverse effects can be avoided is considered appropriate. Additionally, the cumulative impacts as a result of all of the impacts experienced together with the potential for multiple well pads across the area, may exacerbate the effects on sensitive receptors.

Consideration of existing separation distances

In addition to the above, we have given further consideration to other distance zones as follows.

The *Town and Country Planning (General Permitted Development) (England) Order 2015* (NEB27) (as amended) (Appendix 6) sets out a 400m separation

Joint Plan Authorities Response – Additional Hearing Questions January 2019

distance between agricultural development and protected buildings (permanent buildings occupied by people), which is well-practiced, to safeguard against the effects of noise and odour and their effect on residential amenity.

A 500m separation distance is commonly used between wind turbines and residential properties. A House of Commons standard note SN/SC/5221: 'Wind Farms – Distance from Housing' (Appendix 7) states that England has no separation distance, although noise limits suggest a minimum separation distance of 350 metres for a typical wind turbine. However, this matter is considered differently elsewhere in the UK. In Scotland guidance suggests 2km as a reasonable separation and in Wales guidance suggests a minimum distance of 500m between a wind turbine and housing.

A study by consultant Gillespies for Gwynedd Council, Isle of Anglesey County Council and Snowdonia National Park Authority called "Wind turbines and Pylons – Guidance on the application of separation distances from residential properties" (May 2014) (Appendix 8) also shows that a pylon height of 40-60m has the potential to have a 'very large' scale of visual impact within 500m¹.

Although it is recognised that wind turbines differ in a number of ways to shale gas fracturing equipment, it does offer comparison to pylons which are more akin to the type of equipment used for (although pylons are not lit up along their height and tend to be neutral grey).

The outcome of the site based assessments used in this study found that there was a relationship between distance and very large scale impacts occurring. These are detailed in the following figure:

¹ A 'very large scale of visual impact' is defined as a very large scale change in a view that introduces new, non-characteristic or discordant or intrusive elements into the view which may form the principal element of/or dominate the view and may overpower the viewer. This may occur where a proposed development would be in close proximity to the viewer, in a direct line of vision, or affecting a substantial part of the view and where it would be prominent within, or contrasts with, the visual context, and detracts from its visual amenity.

Joint Plan Authorities Response – Additional Hearing Questions January 2019

Table 4.2: Results of Site Based Assessments

	Height*	Indicative distances within which the structure may give rise to a <u>very large</u> scale of visual impact
Wind Turbines	17.8 m	c. 130 m
	34.2 m	c. 280 m
	53 m	c. 400 m
	93 m	c. 750 m
Pylons	50-59 m	c. 400 m
	55-59 m	c. 400 m

*Height of wind turbine measured to blade tip

The document includes a photographic study of the degree of visual impact of wind turbines and pylons at various distances within a range of landscape settings.

However, the guidance concluded that there is 'no conclusive evidence to support the strict application of minimum separation distances between residential properties and wind turbines or pylons in terms of visual residential amenity. For this reason it is recommended that each proposed development should be considered on its own merits, on a case by case basis.' (Section 5: Recommendations).

The visual harm on residential amenity is not determined by the relationship of height and distance alone in the absence of other factors. Nonetheless the guidance does recognise that there is an initial direct relationship between height and distance, which could be used to trigger the need for a residential visual amenity assessment. Table 5.1 provides a 'Rough Guide to Residential Visual Amenity Assessment Trigger Distances for Wind Turbines and Pylons' (Appendix 8) that is supported by the evidence attained through the study; the most relevant finding being that a pylon height of 40-60m has the potential to have a 'very large' scale of visual impact within 500m.

When considering separation distances, it is clear that where matters concerns noise, odour and visual impact, there is no definitive distance accepted and that location is a key factor for consideration. This is accepted and clarified in the M17 policy modification.

Joint Plan Authorities Response – Additional Hearing Questions January 2019

Accepted evidence presented for the planning appeal for hydrocarbon development at the Roseacre site in Lancashire demonstrated that there were likely to be effects as a result of this type of development. In this Appeal², the Inspector concluded:

"...having regard to aesthetic and perceptual considerations, there would be a significant impact upon the landscape during the first phase of development that would last about two and a half years. These significant landscape effects would be limited to a distance of up to 650-700m, and certainly no more than 1km, from the site" (para 12.397).

It is therefore considered pragmatic to apply a precautionary approach when assessing separation distances with regards to hydrocarbon development as although adverse effects have been demonstrated and accepted in other cases, this is also relatively new to the North Yorkshire area. For development of this nature, additional consideration to other land use development must also be considered including light pollution, perceived risks relating to safety, potential land and water pollution as well as additional noise sources from vehicle traffic accessing the site.

We consider a 500m zone recognising the potential significant adverse effects of hydrocarbon development wherein development can be permitted subject to demonstrating an unacceptable impact on sensitive receptors can be avoided is therefore appropriate.

It is important to recognise that the 500m zone stated in Policy M17 and justified in the supporting text (paragraph 5.146) is not an absolute in the determination of planning applications. The modification proposed is intended to clarify that this is a guide to maintain "adequate separation distances" to sensitive receptors recognising that any applications will need to be determined ultimately on a "case by case basis" (paragraph 5.146) and that receptors within 500m are likely to be more vulnerable to adverse effects. Proposals within 500m, which can demonstrate that the appropriate protection to sensitive receptors can be achieved, would be consistent with this policy. The 500m buffer identified in the policy must be viewed in this context.

The MPA has submitted a modification to policy M17 to remove reference to exceptional circumstances [LPA/98]. The policy is now suggested to state:

²Appeal reference: APP/Q2371/W/15/3134386; APP/Q2371/W/15/3130923; APP/Q2371/W/15/3134385; APP/Q2371/W/15/3130924

Joint Plan Authorities Response – Additional Hearing Questions January 2019

“i) Hydrocarbon development will be permitted in locations where it would not give rise to unacceptable impact on local communities or public health. Adequate separation distances should be maintained between hydrocarbons development and residential buildings and other sensitive receptors in order to protect local communities from adverse impacts from noise, light pollution, emissions to air or ground and surface water and induced seismicity, including in line with the requirements of Policy D02. Proposals for surface hydrocarbon development, particularly those involving hydraulic fracturing, within 500m of residential buildings and other sensitive receptors, are unlikely to be consistent with this requirement and will only be permitted where it can be robustly demonstrated in site specific circumstances that an unacceptable degree of impact can be avoided.”

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