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Planning Inspector
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Thursday 7th June 2018

Dear Ms Ord,

RE: JMWP - EIP - Consultation on Written Ministerial Statement— Energy policy (shale gas)

I am writing in response to your request to provide a statement on how the Written Ministerial Statement (WMS) of 17th May 2018 impacts the current drafting of the Joint Minerals and Waste Plan; specifically, you ask for comments on:

1. ***Whether the written ministerial statement affects the Plan, and if so how;***
2. ***Whether the Plan should be modified and if so how to reflect the written ministerial statement.***

This letter expands on the points made in our letter to Ms Perkin of 18th May 2018, (copy enclosed) and which we request be read in conjunction with the following.

The WMS explicitly states, '***This Statement is a material consideration in plan-making and decision-taking***'. We are of the view that the Joint Plan should take full account of the following points made in the WMS;

- "Shale gas development is of national importance".
- "The Government expects Mineral Planning Authorities to give great weight to the benefits of mineral extraction, including to the economy. This includes shale gas exploration and extraction."
- "Mineral Plans should reflect that minerals resources can only be worked where they are found, and applications must be assessed on a site by site basis and having regard to their context."
- "Plans should not set restrictions or thresholds across their plan area that limit shale development without proper justification".

- "We expect Mineral Planning Authorities to recognise the fact that Parliament has set out in statute the relevant definitions of hydrocarbon, natural gas and associated hydraulic fracturing."
- "Consistent with this Planning Practice Guidance, policies should avoid undue sterilisation of mineral resources (including shale gas)."

Consequently, we are of the view that several elements of the current and proposed modifications to the Joint Plan are not in keeping with the WMS and therefore further modifications to both the proposed policies and supporting text in respect of hydrocarbons are necessary and which we explain in more detail below.

Definition of Hydraulic Fracturing:

The WMS clearly states Mineral Planning Authorities must recognise that Parliament has set out in statute the relevant definitions of hydrocarbons, natural gas and associated hydraulic fracturing. It is clear, that with respect to hydraulic fracturing - it would be ambiguous and confusing to have different definitions being used by different regulators. In land use planning terms, the potential surface impacts associated with the development of conventional and unconventional geologies are already clearly handled within the current planning framework.

The current policy wording (M16) also makes no distinction between exploration drilling (where no hydraulic fracturing is involved) and the appraisal and production stages.

In the light of the industry's concerns over the soundness of the proposed policy in its current form we therefore propose that the wording is modified as stated in our letter of 18th May 2018, as appended.

To add weight to this approach and our proposed amendment, during evidence to the Select Committee hearing on 'planning guidance on fracking', Claire Perry, Minister of State at the Department for Business, Energy and Industrial Strategy stated that the definition of Hydraulic Fracturing in the Infrastructure Act is the definition that should be applied. She said, *'The Infrastructure Act definition relies on the quantity of water at every stage whereas the wider definition is at any one stage. That is the difference. There is another discrepancy relating to planning guidance on this that predates the Infrastructure Act, and it is the intention of our two Departments to ensure that that is updated so there is no discrepancy between planning guidance and the Infrastructure Act'*. She further clarified that the Infrastructure Act should be relied upon and not mineral planning guidance and that, *'the intention of the WMS was to be absolutely clear that there was a statement from Government that should be taken into account in planning considerations'*.

The WMS is material to the preparation of the Joint Plan and must be taken into account. The Policy should therefore be amended reflective of the WMS to ensure the Plan is sound.

Buffer zones:

The WMS clarifies that Minerals Plans should be, *'consistent with Planning Practice Guidance, policies should avoid undue sterilisation of mineral resources (including shale gas)'* and that *'plans*

should not set restrictions or thresholds across their plan area that limit shale development without proper justification'.

The current draft Plan, and most particularly the matters relating to hydrocarbons and the proposed policy (M17) to provide a 500m buffer zone to residential and other sensitive properties is contrary to the statement of the WMS.

As requested at the Hearing on 13th April, we have developed a more detailed, interactive model demonstrating the impact of the imposition of a 500m buffer zone policy would have in reducing the extent of the license area available for site selection. The model confirms that Ms Lieven QC's advice in her opinion letter (Local Plan Document 3997 - Additional statements on hydrocarbons for 13 April 2018) is correct, that the buffer zone acts to sterilise much of the licensed areas, with over 70 % of the PEDL areas being affected by this buffer constraint.

The position is potentially a lot worse because it is inevitable that parts of the areas that are shown to lie more than 500m from 'sensitive receptors' will be affected by other constraints such as proximity to protected ground water zones, protected species and habitats, areas at risk of flooding, locations with poor access and geological constraints etc.

Our conclusion therefore is that specific reference to 500m should be excluded from the policy as proposed and modified as it is directly counter the WMS and its retention in its current form would make the policy and plan unsound.

Limits on Pad Density:

'Mineral Plans should reflect that minerals resources can only be worked where they are found, and applications must be assessed on a site by site basis and having regard to their context', 'Plans should not set restrictions or thresholds across their plan area that limit shale development without proper justification'; to this end we are strongly of the view that any attempt to impose arbitrary restrictions on the number of wells or pads within the Joint Plan area is counter to the WMS and that any reference to such restrictions should be removed. Failure to do so would make the Plan unsound.

Distinction Between Conventional vs Unconventional

As set out in our initial and subsequent representations, it is our strong view that there is no necessary distinction in planning terms, between conventional and unconventional hydrocarbon development; this is reflected in current planning practice guidance. The WMS states that *'we expect Mineral Planning Authorities to recognise the fact that Parliament has set out in statute the relevant definitions of hydrocarbon, natural gas and associated hydraulic fracturing'*. It is, therefore considered unnecessary to draw such a distinction within the plan and to retain such would be contrary to the WMS and make the Plan unsound.

National importance of shale gas:

The WMS makes it clear that, '*Shale gas development is of national importance*' and that, '*The Government expects Mineral Planning Authorities to give great weight to the benefits of mineral extraction, including to the economy. This includes shale gas exploration and extraction.*'

Through this statement we believe that the Government has made it clear that exploration for shale gas should be encouraged where it is acceptable in local planning terms and that the Joint Plans polices should seek to support proposed development, rather than establish criteria that seek to restrict or constrain development by requiring undefined high-level tests to be met.

In light of the WMS and issues it raises for the proposed policies and supporting text as modified, we consider there would be considerable merit in reopening the Hearing to ensure that the views of the Joint Authorities and all stakeholders can be taken into account before formal consultation on the proposed modifications commences.

Yours sincerely



Ken Cronin
UKOOG CEO

Enclosures:

1. Our letter to the Joint Authorities dated 18th May 2018
2. Our suggested modifications to the policy and supporting text (Local Plan document 3997 Matter 1 - Hydrocarbons dated 12 February 2018)

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Friday 18th May 2018

Dear Ms Perkin,

RE: Joint Minerals and Waste Plan - EIP

I am writing to you in respect of the current Examination in Public (the Hearing) of the North Yorkshire Joint Minerals and Waste Plan, and most particularly matters relating to hydrocarbons and the proposed policy to provide a 500m buffer zone to residential and other sensitive properties.

Elizabeth Ord, the Planning Inspector reviewing the soundness of the Plan indicated at the Hearing on 13th April that the industry and the local authorities should agree wording that allows the industry to develop if it can demonstrate robustly that impacts would be acceptable.

Additionally, the Inspector asked the industry to present further details behind the map presented by UKOOG at the Hearing, which demonstrates the restrictive implications of the proposed 500m buffer zone.

On 25th April, via email to the case officer, we requested a meeting to discuss the wording as required at the Hearing by the Inspector. Our request has not been supported and we have been asked that we express our views and proposed wording in writing.

We are therefore writing specifically on the issue of the proposed 500m buffer zone. We reserve our right to make further comment on other issues that we disagree with, including the definition of hydraulic fracturing and the split between conventional and unconventional oil and gas exploration. The current wording proposed by the Joint Authorities as per the Hearing on 13th April is:

"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 ensure a high level of protection 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, will be only permitted where it can be clearly demonstrated in site specific circumstances that a high level protection will be provided ~~are unlikely to be consistent with this requirement and will only be permitted in exceptional circumstances.~~"

In addition to the detailed points made in our various previous submissions UKOOG would wish to make the following points which leads us to a proposed revised wording as requested.

1. New Written Ministerial Statement (WMS)

During the completion of this letter a new WMS has been laid before parliament. We think it is important that the joint plan ensures account has been made of the following points in the WMS:

- "This Statement is a material consideration in plan-making and decision-taking".
- "Shale gas development is of national importance".
- "The Government expects Mineral Planning Authorities to give great weight to the benefits of mineral extraction, including to the economy. This includes shale gas exploration and extraction."
- "Mineral Plans should reflect that minerals resources can only be worked where they are found, and applications must be assessed on a site by site basis and having regard to their context."
- "Plans should not set restrictions or thresholds across their plan area that limit shale development without proper justification".
- "We expect Mineral Planning Authorities to recognise the fact that Parliament has set out in statute the relevant definitions of hydrocarbon, natural gas and associated hydraulic fracturing."
- "Consistent with this Planning Practice Guidance, policies should avoid undue sterilisation of mineral resources (including shale gas)."

As a result of this WMS we believe a number of aspects of the joint plan are not in keeping with this WMS and should therefore be reviewed.

2. Sterilisation of PEDL Licences

As Nathalie Lieven QC explained in her opinion "[t]he effect of the buffer zone policy is to sterilise a very large proportion of the PEDL licence areas in North Yorkshire. In its representations at appendix 9 UKOOG produced a plan of the effect of the residential buffer within the licence areas. This is only illustrative but has not been challenged by any party at the hearing. It is clear from this plan that if the 500m policy is upheld there will only be a very small proportion of the licence area where extraction will be possible. The effect of the policy is therefore wholly inconsistent with national policy. It is notable that the Council have not sought to refute the impact of the policy."

As requested by the Inspector, we have now developed a more detailed, interactive model demonstrating the impact the imposition of a 500m buffer zone policy would have in reducing the extent of the licensed area available for site selection. The model confirms that Ms Lieven QC's

advice in her opinion letter is correct. Over 70 % of the PEDL areas covered by the Plan would be affected by this buffer constraint.

We are of the view that such an exercise should have been carried out by the Joint Authorities in the first place to provide evidence and justification for their proposed policy in accordance with guidelines for the preparation of local plans

The position is potentially a lot worse because it is inevitable that parts of the areas that are shown to lie more than 500m from "sensitive receptors" will be affected by other constraints such as proximity to protected ground water zones, protected species and habitats, areas at risk of flooding, locations with poor access, etc.

Our conclusion therefore is that specific reference to 500m should be excluded.

3. Definitions

Included in the current proposed amended wording there is a phrase "a high level of protection". However, this has not been defined by the Joint Authorities to date. Our view, consistently expressed throughout our submissions and representations and which remains, is that the National Planning Policy Framework and the Planning Practise Guidelines already provide an acceptable level of protection and that 'a high level of protection' is unnecessary and cannot be justified. We would invite, at the earliest opportunity the Joint Authorities definition.

This is outlined in our various previous submissions and in particular the opinion of Nathalie Lieven QC, "On the facts of hydrocarbon development, residential amenity can and will be protected to an acceptable degree without any buffer zone requirement, through the normal imposition of appropriate conditions."

The need to mitigate adverse impacts is enshrined in the planning and environmental impact assessment processes. As part of the EIA process in particular the need or otherwise for an appropriate set off distance is one of a number of mitigation measures which is considered. Everything ultimately will depend on site specific circumstances. Noise impact is an obvious example. With appropriate mitigation in place, drilling operations can be carried out close to sensitive receptors so that no significant noise impact arises. Similarly, the visual impact of a site can be completely screened from a nearby residential property by surrounding topography.

Finally, in terms of wording we have also made clear, with respect to hydraulic fracturing - it would be ambiguous and confusing to have different definitions being used by different regulators. In land use planning terms, the potential surface impacts associated with the development of conventional and unconventional geologies are already clearly handled within the current planning framework.

The policy wording also makes no distinction between exploration drilling (where no hydraulic fracturing is involved) and the appraisal and production stages.

In the light of the industry's concerns concerning the soundness of the proposed policy in its current form we therefore propose that the wording is modified as follows:

Hydrocarbon development will be permitted in locations where it would not give rise to unacceptable impact on local communities or public health. **Applicants should demonstrate in their submissions or by adherence to other regulatory regimes how residential properties (and other sensitive receptors) close to proposed sites will be protected** Adequate separation distances should be maintained between hydrocarbons development and residential buildings and other sensitive receptors in order to ensure a high level of protection 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, will be only permitted where it can be clearly demonstrated in site specific circumstances that a high level protection will be provided are unlikely to be consistent with this requirement and will only be permitted in exceptional circumstances.~~

Given the outstanding issues associated with the buffer zone, definitions, the new WMS and the need to demonstrate the interactive model, we are strongly of the view that these matters should be the subject of further discussion at a hearing in the presence of all parties and before the Inspector. We respectfully ask for this to be arranged before the Joint Authorities publish the main modifications thereby providing them with the opportunity to look at the interactive model and reconsider their position on the 500 metres buffer, as we believe this will expedite the overall process of the Local Plan.

Yours sincerely



Ken Cronin
UKOOG CEO

CC: Carmel Edward - case officer - via email.

NORTH YORKSHIRE COUNTY COUNCIL, CITY OF YORK COUNCIL AND NORTH YORK MOORS
NATIONAL PARK - MINERALS AND WASTE JOINT PLAN

EXAMINATION IN PUBLIC

STATEMENT BY THIRD ENERGY, IGAS, INEOS, CUADRILLA, EDGON AND UKOOG

Responses to Questions 54 to 63 (Hydrocarbons) and other issues

1. INTRODUCTION

1.1 This statement is prepared on behalf of five operators with PEDL licences within the area covered by the draft Minerals and Waste Joint Plan ("**the Plan**") and UKOOG. This statement sets out their consolidated position with regard to the soundness of the Plan. In summary, the plan is unsound because it is:

1.1.1 **Not consistent with national policy:** it does not enable the delivery of sustainable development in accordance with the policies in the National Planning Policy Framework ("**NPPF**"), Planning Policy Guidance ("**PPG**") and the Written Ministerial Statement relating to shale gas and oil policy dated 16 September 2015 ("**WMS**"); and

1.1.2 **Not justified:** it is not "*the most appropriate strategy, when considered against reasonable alternatives, based on proportionate evidence*" (**NPPF 182**).

1.2 **Appendix 1** to this statement sets out the main modifications required to ensure that the policies are sound. The comment boxes in that document explain why the proposed changes are required. A clean copy of the modified policies is provided in **Appendix 2**. At **Appendix 3** we suggest changes to the accompanying "Policy Justification" text.

2. RESPONSE TO MATTERS, ISSUES AND QUESTIONS

54. Briefly explain how the section of the Plan that deals with hydrocarbons is consistent with national policy.

2.1 We do not consider that the hydrocarbons section of the Plan is consistent with national policy, for the reasons set out in this statement.

55. Does the Plan set out a clear and readily understandable policy structure for hydrocarbons?

2.2 We do not believe the Plan sets out a coherent policy framework which can be justified in planning terms, for the reasons set out in this statement.

56. Taking account of the Written Ministerial Statement of 16 September 2015, does the hydrocarbon section of the Plan provide the right balance between supporting appropriate hydrocarbon development (taking account of economic and social benefits) and protecting the environment and sensitive receptors from its potential impacts?

2.3 The starting point should be the strong Government policy support for the development of onshore hydrocarbons set out in national policy: see **Appendix 4**. Government energy policy supports the development of onshore oil and gas in the UK as part of the energy mix (**PPG 124**). The national need for unconventional hydrocarbon exploration, from resources such as shale and coal seams, is recognised as "pressing" (**PPG 091**). The WMS gives specific support for shale gas exploration,

including use of hydraulic fracturing. It states expressly that Government support should be taken into account in the plan-making process.

- 2.4 Unlike developments of other kinds, the areas in which minerals can be extracted are limited by geology. National policy recognises this in **NPPF 142**, which states that: "*minerals are a finite resource, and can only be worked where they are found*".
- 2.5 A policy framework which serves to significantly impede or prevent such development in areas where minerals are found and have been licensed by the Government for hydrocarbon development will be contrary to national policy unless there is strong evidential justification. The proposed Plan policies are unsound because they would:
- 2.5.1 prevent development over the majority of the licence areas within the Plan area, without such evidential justification;
 - 2.5.2 make distinctions between conventional and unconventional projects where there is no difference in planning impacts; and
 - 2.5.3 fail properly to take into account the role of other regulators in safeguarding the environment.
- 2.6 We recognise that in drawing up local plans, national policy requires that Mineral Planning Authorities ("**MPAs**") include policies setting out criteria for development, including "*criteria for the location and assessment of hydrocarbon extraction*" (**PPG 106**). However, any environmental criteria set out in a local plan must be "*in line with the policies in the [NPPF]*" and required "*so as to ensure that permitted operations do not have unacceptable impacts*" (**NPPF 143**)¹. In order to be "sound", environmental criteria restricting development must be necessary to avoid unacceptable adverse impacts. In addition, **NPPF 182** provides that local plan policies will only be sound if they are "justified", which is defined as "*the most appropriate strategy, when considered against reasonable alternatives, based on proportionate evidence.*" We do not consider that these tests have been met, and the proportionate balance struck, in the policies as proposed.

57. Should there be specific policy provision within the hydrocarbon section of the Plan covering the potential impact on climate change? Are the policies consistent with NPPF paragraph 94 requiring local planning authorities to adopt proactive strategies to mitigate and adapt to climate change?

- 2.7 It is appropriate to have policies which seek to limit the Green House Gas emissions relevant to the land use in issue, for example seeking to appropriately limit lorry movements to the site. Any climate change impacts from the ultimate use of the hydrocarbons extracted are not a matter for planning control². The burning of the hydrocarbons is either controlled by the Emission Trading Scheme, or is in substitution for other hydrocarbons. Issues as to the ultimate choice of energy mix in the UK are for national government and not a Local Plan.

58. Should there be a distinction in Policy between conventional and unconventional hydrocarbon extraction?

- 2.8 A distinction between conventional and unconventional projects should only be made: (1) to the extent that any distinction has been made by national policy or legislation which affects spatial development; or (2) where this distinction is justified in land use planning terms.

¹ See **Appendix 5** for this policy and others which bear on the limitations of MPAs' discretion to impose restrictions on development of the sorts proposed.

² Preston New Road Action Group v Secretary of State for Communities and Local Government QBD 2017

- 2.9 Certain restrictions have been imposed by **PPG 223**, the WMS, the Infrastructure Act 2015 and the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016 in relation to the areas in which hydraulic fracturing and other unconventional projects can take place. Those restrictions relate to development within or below National Parks, AONBs, Protected Groundwater Source Areas and World Heritage Sites. Other policies in the NPPF (particularly **NPPF 116 and 133**) apply tests which are relevant to any development proposals in these locations, including hydrocarbon development. All of these relevant restrictions ("**National Restrictions**") are summarised in **Appendix 6**.
- 2.10 The Plan should reflect these National Restrictions. The statutory restrictions relate to and restrict hydrocarbon development of certain types in certain locations, so setting out these restrictions in the Plan would be justified in the interests of clarity. This is the approach that has been taken in the draft West Sussex Joint Minerals Local Plan, which has been subject to examination recently. A copy of the hydrocarbons section of that draft plan is provided in **Appendix 7**, with track changes showing the "main modifications" proposed following the hearing and comment boxes summarising the reasons for the modifications given by the MPAs.
- 2.11 In order to apply these National Restrictions correctly, the Plan will necessarily need to make a distinction between hydraulic fracturing of shale strata at the volumes specified in the Infrastructure Act (what is defined in the Act as "associated hydraulic fracturing") and other hydrocarbon development.
- 2.12 Any distinctions between other types of hydrocarbon development, beyond the National Restrictions summarised in **Appendix 6**, would require strong evidential justification. As set out in the original representations of a number of the operators and UKOOG, there is no necessary distinction in planning terms between conventional and unconventional hydrocarbon development. The impacts will vary depending on both the nature of those activities and the receptors in the vicinity of the development.

59. Should there be more flexibility in dealing with potential exploration, appraisal and production of unconventional hydrocarbons in the North York Moors National Park, particularly as some Petroleum Exploration and Development Licenses ("PEDL") lie within the National Park?

- 2.13 Please refer to our response to question 58. We would welcome Plan policies which apply the National Restrictions. However, the MPAs have provided no evidence of the need for further blanket restrictions being applied to National Parks. Any such wider restrictions would not accord with national policy, for the reasons set out in response to question 56.
- 2.14 For the same reason, we believe that the restrictions on surface and subsurface development imposed by Policy M16(b)(i) and (ii) on development in the other specified areas are unsound.

60. With respect to Policy M16 (Key spatial principles for hydrocarbon development) briefly explain the reasons for choosing a distance of 3.5km for the AONB/National Park buffer zone in part d) of the policy and how this is intended to work in practice. Is this the most appropriate distance for such a buffer?

- 2.15 The plan in **Appendix 8** shows the MPAs' 'Policies map' which accompanies the draft Plan, showing AONBs and National Parks (in dark blue) and the 3.5km buffer zone (in light blue) and the PEDL licence areas (coloured yellow or outlined in beige). This map illustrates that in practice, applications in the majority of the petroleum licence areas will need to be supported by the sort of detailed assessment described. We note the justification for this in paragraph 5.128 by reference to "*typical planning practice guidance relating to assessment of landscape and visual impacts for EIA purposes.*" However, such assessment will normally only be required for EIA purposes where relevant in the case of a particular development. If, for example, a site is entirely screened within its immediate

surroundings there will be no need for such assessment. The attempt to mandate detailed visual assessment on a blanket basis is unjustified.

61. With respect to Policy M17 (Other spatial and locational criteria applying to hydrocarbon development) part 4) and paragraph 5.146 does the 500m buffer around residential and other sensitive receptors strike the right balance between development and protection? Should there be more flexibility in separation distances and should this be dealt with on a site by site basis? (PPG 27-018-20140306)

- 2.16 There is no policy support for applying an "exceptional circumstances" test to hydrocarbon extraction within buffer zones around specified areas. National policy (see **Appendix 5**) recognises that minerals development has certain characteristics, such as temporary use over a long period of time and adverse impacts which may require mitigation (**PPG 001**); that impacts will vary from site to site (**PPG 013**); are best assessed through the EIA process (**PPG 011**); and controlled through the imposition of appropriate work programmes (**PPG 015**) and planning conditions (**PPG 125**). No credible justification has been put forward for the imposition of an "exceptional circumstances" test to development within the 500m zone. Assessments and decisions should be made, and mitigation applied, on a case-by-case basis as envisaged by national policy. **PPG 018** refers to the need for "*any proposed separation distance [to] be established on a site specific basis and should be effective, properly justified and reasonable.*"
- 2.17 The effect this policy would have on hydrocarbon development in the Plan area is illustrated on the map at **Appendix 9**. Development would be limited to "exceptional circumstances" in all of the areas shown in grey. As explained in response to question 56, any policy with this effect is clearly inconsistent with Government support for hydrocarbon development.

62. Is the possible requirement of a financial guarantee in Policy M18 (Other specific criteria applying to hydrocarbon development) part 2 (iii) for unconventional hydrocarbon development justified due to its novel approach or techniques? (PPG 27-048-20140306)

- 2.18 Relevant national policies are set out in **Appendix 10**.
- 2.19 The references to "decommissioning" and the Policy Justification wording supporting Policy M18 part 2 (iii) imply that the financial guarantee which is being sought is one which would cover full plugging and abandonment of the well in addition to merely the cost of restoration and aftercare of the surface development. If this is the intention of the Policy it is unsound. The latter clearly relates to restoration of the surface of the land and landscaping, and the former to matters which are within the remit of the Oil and Gas Authority ("**OGA**"), the Health & Safety Executive and the Environment Agency. The former therefore should not be matters considered by MPAs (**PPG 012 and PPG 112**). **PPG 048** states that a financial guarantee will only be justified in "*exceptional cases*" including where "*a novel approach or technique is to be used*". However, the restoration and aftercare of the surface of hydrocarbon sites is not novel and should not therefore require a guarantee³. Whether the site being restored was formerly a conventional or unconventional site is not relevant to matters within the MPAs' remit (i.e. surface restoration and landscaping) as those effects will be precisely the same whatever extraction method is used.
- 2.20 In terms of guarantees for subsurface plugging and abandonment, there are a number of provisions enabling regulators to ensure financial liabilities are met. Under condition 24(7) of the standard conditions for petroleum licences, the OGA may require the licensee to take out security covering the discharge of any liability for damage attributable to the release or escape of petroleum in the course of activities under the licence. Section 45A of the Petroleum Act 1998 allows the OGA to request financial information from the operator at any time, and if the OGA is not then satisfied that the

³ The industry also refutes the suggestion that hydraulic fracturing as a technique is 'novel' as explained in their representations.

operator will be capable of plugging and abandoning the well it may require further actions (including financial security). It should also be noted that Greg Clark MP issued a written ministerial statement on 18 January 2018 stating that the Government will not issue hydraulic fracturing consents under s4A of the Petroleum Act unless they are satisfied of the "financial resilience" of the operator. Clearly this provides a further safeguard in relation to subsurface liabilities (which in any event are outside the remit of MPAs).

63. Has sufficient consideration been given to the potential impact on the strategic road network from hydrocarbon development and are there any outstanding concerns from Highways England or the Highways Authority?

- 2.21 We consider that any potential transport impacts on the strategic road network can be fully dealt with through traffic management measures imposed through the planning application process.

3. OTHER POLICIES CONSIDERED TO BE UNSOUND

Limitations on pad density (in particular Policy M17 part 2 and para 5.134)

- 3.1 This policy and related justification text seek to restrict hydrocarbon development to no more than 10 well pads per 100km² PEDL area (including restored as well as operational sites), and less in the Green Belt. This appears to be an arbitrary restriction, not justified by reference to any evidence. It is therefore unsound for the reasons set out above in relation to our earlier responses (in particular question 56). Cumulative impacts can and should be adequately addressed in accordance with the national policies in **Appendix 11**, as discussed further below.

Requirement to provide information on future development (M17 part 2(i), M17 part 2 (ii) and para 5.138 and 5.152)

- 3.2 The relevant national policies are set out in **Appendix 11**. **PPG 102** acknowledges that selection of sites for appraisal and production will evolve following exploration: *"additional sites, following exploration, will be selected by the operator taking account of what they have learnt or discovered through previous phases."* The PPG therefore acknowledges that development of oil and gas resources is necessarily an iterative process rather than something which is capable of being planned from the outset. **PPG 120** sets out the principle established by case law that: *"Individual applications for the exploratory phase should be considered on their own merits. They should not take account of hypothetical future activities for which consent has not yet been sought, since the further appraisal and production phases will be the subject of separate planning applications and assessments."*
- 3.3 **PPG 017** recognises that MPAs should *"include appropriate policies in their minerals local plan, where appropriate, to ensure that the cumulative impact of a proposed mineral development on the community and the environment will be acceptable"*. However, it is important to note the (double) use of the word *"appropriate"*. As explained in section 2.6 above, any environmental criteria set out in a local plan (including policies aimed at dealing with cumulative impacts) must be required *"so as to ensure that permitted operations do not have unacceptable impacts"* (**NPPF 143**) and *"justified"* (**NPPF 182**).
- 3.4 The Plan policies listed above requiring information on how current proposals will fit with future development and assessment of the (future) development as a "whole" do not meet these tests and are therefore unsound.

Subsurface issues within the remit of other regulators (Policy M17 part 4 (iii); paras 5.148; 5.149, 5.151; Policy M18 part 1(i) and (ii), and part 2 (i) and (iii))

- 3.5 **PPG 012** and **PPG 112 (Appendix 12)** make clear that planning authorities are not responsible for matters covered by other regulatory regimes. MPAs *"should assume that these regimes will operate*

effectively. Whilst these issues may be put before mineral planning authorities, they should not need to carry out their own assessment as they can rely on the assessment of other regulatory bodies." This planning policy principle has been re-confirmed in a number of legal cases including most recently R. (Frac Free Balcombe Residents Association) v West Sussex CC 2014.

- 3.6 In the case of oil and gas, the remit of other regulators extends to all subsurface activities and risks (see **PPG 112**). Given that national policy expressly states that these are subsurface matters on which MPAs should rely on the assessment of the relevant regulators, it is not appropriate for MPAs to set criteria for development based upon these matters in a local plan. The imposition of environmental criteria properly within the remit of other regulators cannot be necessary *"so as to ensure that permitted operations do not have unacceptable impacts"* (**NPPF 143**).
- 3.7 A number of the Plan policies also trespass on surface issues properly within the remit of the Environment Agency, in particular those relating to water management, NORM and air quality monitoring. Again, it is unsound for the Plan to seek to control these matters since national policy so clearly places responsibility for these matters with other regulators.

Coal mine methane (Policy M16(c))

- 3.8 This restrictive policy is not practicable or justified. It implies that proposals in other areas will never be supported, which fails to acknowledge that minerals must be worked where found, and that sites should be assessed on a case-by-case basis through the planning process.

Waste water management, and gas pipeline (Policy M17 part 1 (iii))

- 3.9 The policy as drafted is overly prescriptive. While it is appropriate that consideration should be given to use of underground pipelines and to water supply with a view to minimising road transport impacts, this must be judged on a case-by-case basis depending on the nature of the development and its proposed location. Regard must always be had to the national policy principle that minerals must be worked where they are found.

Term-time traffic restrictions (Policy M17 part 3)

- 3.10 This policy is unnecessarily restrictive. These issues can be managed most appropriately on a case-by-case basis through mitigation and traffic management plans. This may, for example, include HGVs using roads only outside of school pick-up and drop off hours.

Safeguarding (Policy S02)

- 3.11 Although no part of the PEDLs that have been granted to date lie within the deep mineral resources safeguarding areas shown on the Policies map, the operators and UKOOG wish to take this opportunity to comment on the practical application of Part (3) of Policy S02 as a point of principle. Part (3) needs to make clear that responsibility for the assessment of the impact of hydrocarbon development at sub-surface needs to lie with the other relevant regulators (see paragraph 3.5 above). The criteria in Part (1) should also apply to hydrocarbon development.
- 3.12 Revision is also required to Part (2) of this Policy because, as drafted, it does not work in the way intended. It needs to make it clear that the listed developments will be granted permission if no significant risk of subsidence arises and one of the relevant criteria is met.

12 February 2018

STATEMENT BY THIRD ENERGY, IGAS, INEOS, CUADRILLA, EDGON AND UKOOG
Responses to Questions 54 to 63 (Hydrocarbons) and other issues

APPENDICES

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APPENDIX 1

**PROPOSED MAIN MODIFICATIONS TO THE DRAFT PLAN POLICIES AND COMMENTARY
EXPLAINING WHY EACH CHANGE IS REQUIRED**

Definitions

5.1 To ensure that the local policy approach to hydrocarbon development is as clear as it can be, it is helpful to define some key words and concepts that will be used by the Mineral Planning Authorities when implementing the Joint Plan:

a) ~~'Designated Areas' means North Yorkshire National Park, AONBs, Protected Groundwater Source Areas, the Fountains Abbey/Studley Royal World Heritage Site, Scheduled Monuments, Heritage Coast, Registered Historic Battlefields, Grade I and II* Registered Parks and Gardens, Areas which Protect the Historic Character and Setting of York, Special Protection Areas, Special Areas of Conservation, Ramsar sites and Sites of Special Scientific Interest.~~

a)b) 'Hydrocarbon development' includes all development activity associated with exploring, appraising and/or producing hydrocarbons (oil and gas), including both surface and underground development.

b)c) 'Surface hydrocarbon development' and 'surface proposals' includes use and/or development of the land surface for the purposes of the exploring, appraising and/or producing hydrocarbons.

e)d) 'Sub-surface hydrocarbon development' and 'sub-surface proposals' includes development taking place below the ground surface for the purposes of exploring, appraising and/or producing hydrocarbons.

e) ~~'Conventional hydrocarbons' include oil and gas found within geological 'reservoirs' with relatively high porosity/permeability.~~

e) ~~'Unconventional hydrocarbons' include hydrocarbons such as coal bed and coal mine methane and shale gas, as well as the exploitation of in-situ coal seams through underground coal gasification.~~

e) For the purposes of the Plan 'hydraulic fracturing' ~~means hydraulic fracturing of shale or strata encased in shale which - (a) is carried out in connection with the use of the relevant well to search or bore for or get mineral oil or relative hydrocarbon and natural gas, existing in its natural condition in strata, and (b) involves, or is expected to involve, the injection of-- (i) more than 1,000 cubic metres of fluid at each stage, or expected stage, of the hydraulic fracturing, or(ii) more than 10,000 cubic metres of fluid in total.~~ ~~includes the fracturing of rock under hydraulic pressure regardless of the volume of fracture fluid used.~~

f) ~~In planning terms it is considered that relevant distinctions can be drawn between the specific nature and/or scale of activities associated with certain stages of development for conventional hydrocarbons and those used for unconventional hydrocarbons. These differences may include the potential requirement for a larger number of well pads and individual wells, the volume and pressures of fluids used for any hydraulic fracturing processes and the specific requirements for any related plant and equipment and the management of related wastes.~~

~~"Planned developments" means developments which are under construction; have been permitted but not yet implemented; or in respect of which applications have been submitted~~

~~(h) 'Protected Groundwater Source Areas' land which at the surface is--~~

Comment [HSF1]: This is the MPA's full list of areas they wish to provide special protection to, including Heritage Coast, but excluding buffer zones

Comment [HSF2]: There is no justification for a distinction between 'conventional' and 'unconventional' in planning terms. National planning policies do not apply different tests to these two types of development. The distinction is not justified in terms of land use impacts, which will vary and must be judged on a case-by-case basis. It should be noted that the draft West Sussex Joint Minerals Local Plan (WSLP) does not distinguish between "conventional" and "unconventional", no doubt for these reasons.

Comment [HSF3]: To ensure consistency with legislation. This is the definition of "associated hydraulic fracturing" in the Infrastructure Act 2015. Note that rather than refer to "petroleum" (as the Infrastructure Act does) we have referred to the full meaning of "petroleum as set out in the Petroleum Act 1998. This is simply for clarity.

Comment [HSF4]: Deleted Such a distinction is not possible, necessary or useful to control planning impacts

(a) within 50 metres of a point at the surface at which water is abstracted from underground strata and is used to supply water for domestic or food production purposes, or
 (b) within or above a zone defined by a 50-day travel time for groundwater (as defined in the Environmental Permitting Regulations 2010) to reach a groundwater abstraction point that is used to supply water for domestic or food production purposes.

f)g)

Policy M16: Key spatial principles for hydrocarbon development

Hydrocarbon development of the types identified below should be located in accordance with the following principles:

- a)
 - exploration, appraisal and production of **conventional** hydrocarbons, without hydraulic fracturing;
 - **exploration for unconventional hydrocarbons, without hydraulic fracturing;**

Proposals for these forms of hydrocarbon development will be permitted in locations where they would be in accordance with Policies M17 and M18, **and with regard to development proposals deemed to be major and located within North Yorkshire National Park or AONB, such proposals will not be permitted unless it has been demonstrated that there are exceptional circumstances and that it is in the public interest, and, where relevant, part d) of this Policy.**

- b)
 - Exploration, appraisal and production of **conventional** hydrocarbons, involving hydraulic fracturing;
 - **Exploration for unconventional hydrocarbons, involving hydraulic fracturing;**
 - **Appraisal and/or production of unconventional hydrocarbons (other than coal mine methane);**

i) **Surface proposals for these forms of hydrocarbon development will only be permitted where they would be outside the following designated areas: North Yorkshire National Park, AONBs, Protected Groundwater Source Areas, and the Fountains Abbey/Studley Royal World Heritage Site and accompanying buffer zone, Scheduled Monuments, Registered Historic Battlefields, Grade I and II* Registered Parks and Gardens, Areas which Protect the Historic Character and Setting of York, Special Protection Areas, Special Areas of Conservation, Ramsar sites and Sites of Special Scientific Interest.**

ii) **Sub-surface proposals for these forms of hydrocarbon development, including lateral drilling, underneath or in close proximity to the Designated Areas referred to in i) above, will only be permitted where it can be demonstrated that special care will be taken to avoid harming significant harm to the Designated Areas and the special qualities of the North Yorkshire National Park and/or setting and value of AONBs and other Designated Areas, asset will not occur. Where lateral drilling beneath a National Park or AONBs is proposed for the purposes of appraisal or production, this will be considered to comprise major development and will be subject to the requirements of Policy D04.**

Comment [HSF5]: Reflects the definition in the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016.

Comment [HSF6]: See comment HSF2 above. The distinction between conventional and unconventional is not justified.

Comment [HSF7]: Inserted to reflect the test in NPPF 116

Comment [HSF8]: (d) below deleted, therefore reference deleted here

Comment [HSF9]: See comment HSF2 above. The distinction between conventional and unconventional is not justified.

Comment [HSF10]: The WMS of 16 September 2016 states that: "Ministers [...] set out their clear commitment to ensure that hydraulic fracturing cannot be conducted from wells that are drilled at the surface of National Parks and other protected areas..." These other protected areas were defined in the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016. Policy M16(b)(i) as we have amended it reflects this national policy position.

Comment [HSF11]: We have defined 'Designated Areas' to be the list of sites the MPAs want to protect in their version of (b)(i). We have then amended this (b)(ii) to follow a similar format to the West Sussex Local Plan Policies M7a(c) and M7b(c). We have more closely copied the M7a(c) because the duty to demonstrate "special care" is more reasonable than the M7b(c) formulation which dictates that consent will only be given where "there will be no unacceptable harm".

Comment [HSF12]: This restriction on sub-surface development of any sort below these areas goes well beyond the Infrastructure Act 2015, the Hydraulic Fracturing (Protected Areas) Regulations 2016 and planning policy. There is no justification for providing that this is "major development" which would then be subject to the exceptional circumstances tests in Policy P04 (for National Parks and AONB). Subsurface impacts are a matter for other regulators.

~~(iii) Sub-surface proposals involving hydraulic fracturing will not be permitted above 1,200 metres underneath the North Yorkshire National Park, AONBs, World Heritage Sites or Protected Groundwater Source Areas, and will not be permitted in any other areas above 1,000 metres from the surface of the relevant land.~~

iii) Surface and sub-surface proposals for these forms of hydrocarbon development will also be required to be in accordance with Policies M17 and M18. ~~Surface proposals will also, where relevant, need to comply with Part d) of this Policy.~~

c) ~~Coal mine methane:~~

~~Proposals for production of coal mine methane resources will be supported where any surface development would be located on industrial or employment land or within the developed surface area of existing or former coal mining sites.~~

d) ~~Additional criterion applying to surface hydrocarbon development:~~

~~i) Where proposals for surface hydrocarbon development meet other locational criteria set out in this policy but fall within a National Park or an AONB or associated 3.5km buffer zone identified on the Policies map, or are otherwise considered to have the potential to cause significant harm to a National Park and/or AONB, applications must be supported by a detailed assessment of the potential impacts on the designated area/s. This includes views of and from the associated landscapes from significant view points and an assessment of the cumulative impact of development in the area. Permission will not be granted for such proposals where they would result in unacceptable harm to the special qualities of the designated area/s or are incompatible with their statutory purposes in accordance with Policy D04.~~

~~ii) Surface hydrocarbon development will only be permitted where the undeveloped character of defined Heritage Coast will be protected.~~

e) ~~Conversion of well pads and wells for further or alternative forms of hydrocarbon development:~~

Where proposals are brought forward for the conversion of an exploration well pad or individual well to one to be used for appraisal and/or production purposes, or for the conversion of a well pad or individual well used for ~~conventional~~ hydrocarbons ~~developed without hydraulic fracturing~~ to one to be used for ~~unconventional~~ hydrocarbons ~~to be developed with hydraulic fracturing~~, such proposals shall be subject to the spatial principles set out in this Policy as relevant. ~~NB. The suitability of minor proposals for alterations to permitted operations will instead be considered against the Development management policies.~~

Comment [HSF13]: Inserted for consistency with Infrastructure Act 2015 and Onshore Hydraulic Fracturing (Protected Areas) Regulations

Comment [HSF14]: We have deleted (d) below, therefore this cross-reference must also be deleted

Comment [HSF15]: Delete on the basis that this is not practicable or justified. Such resources must be worked where found.

Comment [HSF16]: Refer to response to question 60 in our statement

Comment [HSF17]: We have include "Heritage Coast" in the list of Designated Areas protected by (b)(ii)

Comment [HSF18]: It is not justified for minor proposals to be considered against Policy M16. We request that this caveat is therefore inserted – which is identical to the caveat in the draft West Sussex Joint Minerals Local Plan

Policy M17: Other spatial and locational criteria applying to hydrocarbon development

1) Accessibility and transport

- i) Hydrocarbon development will be permitted in locations with suitable direct or indirect access to classified A or B roads and where it can be demonstrated through a Transport Assessment that **the residual transport impacts (taking into account mitigation measures such as traffic controls, highway improvements and/or traffic routing arrangements) are not severe, taking into account:**
- ~~There is c~~Capacity within the road network for the level of traffic proposed and the nature, volume and routing of traffic generated by the development, **would not give rise to unacceptable impact on local communities¹⁰, businesses or other users of the highway or, where necessary, any such impacts can be appropriately mitigated for example by traffic controls, highway improvements and/or traffic routing arrangements;** and
 - Access arrangements to the site, **which must be are** appropriate to the volume and nature of any road traffic generated and safe and **ensure that** suitable access can be achieved for all users of the site, including the needs of non- motorised users where relevant; and
 - The ~~need for re are~~ suitable arrangements **to be put** in place for on-site manoeuvring, parking and loading/unloading.
- ii) Where access infrastructure improvements are needed to ensure that the requirements of i) a) and b) above can be complied with, information on the nature, timing and delivery of these should be included within the proposals.
- iii) Where produced **gas hydrocarbons** needs to be transported to facilities or infrastructure not located at the point of production, including to any remote processing facility or the gas transmission system, ~~this consideration~~ should be **given to via-use of** underground pipeline, **where feasible**, with the routing of pipelines selected to **have the least practicable minimise** environmental or amenity impact. Where hydraulic fracturing is proposed, **consideration should be given to locating proposals, where feasible, should also be located where an adequate water supply can be made available without minimising** the need for bulk road transport of water.

2) Cumulative impact

- i) Hydrocarbon development will be permitted in locations where it would not give rise to unacceptable cumulative impact, as a result of a combination of individual impacts from the same development and/or through combinations of impacts in conjunction with other existing, ~~planned or unrestored hydrocarbons development~~ **or planned developments.**
- ii) ~~Well pad density and/or the number of individual wells within a PEDL area will be limited to ensure that unacceptable cumulative impact does not arise.~~ Assessment of the contribution to cumulative impact arising from a proposal for hydrocarbon development will include (but not necessarily be limited to) consideration of:
- The proximity of a proposed new well pad site to other existing, permitted or unrestored well pads, and the extent to which any combined effects would lead to unacceptable impacts on the environment or local communities, including as a result of any

Comment [HSF19]: The amendment to (1)(i) is necessary to ensure that this policy is consistent with NPPF 32 which states that: " Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe". The changes to (a), (b) and (c) are purely consequential amendments

Comment [HSF20]: . The policy as drafted is overly prescriptive. While it is appropriate that consideration should be given to use of underground pipelines and water supplied, this must be judged on a case-by-case basis depending on the nature of the development and its proposed location bearing in mind that "minerals must be worked where they are found"

Comment [HSF21]: We have defined "planned developments" in section 5.1 the interests of clarity.

Comment [HSF22]: For clarity, we have defined "planned developments" in accordance with industry practice and guidance on cumulative assessment

Comment [HSF23]: We refute the need for policy to control/limit well pad density. The nature and acceptability of cumulative impacts should be judged on a case-by-case basis.

¹⁰ For the purposes of interpreting this and other Policies in the Plan, the term 'local communities' includes residential areas as well as residential institutions such as residential care homes, children's homes, social services homes, hospitals and non-residential institutions such as schools.

- associated transport impacts;
- b) ~~The duration over which hydrocarbon development activity has taken place in the locality and the extent to which any adverse impacts on the environment or local communities would be expected to continue if the development were to be permitted;~~
 - c) The sensitivity of the receiving environment, taking into account the nature and distribution of any environmental constraints, proximity to local communities, the availability of adequate access links to the highway network and the need to ensure a high standard of protection in line with other relevant policies in the Plan.

Comment [HSF24]: This is unnecessarily prescriptive. The duration of activity will not be relevant if its impacts are not significant.

~~Where results from any earlier exploration and/or appraisal activity are available, proposals for production of unconventional hydrocarbons should include information on how the proposal is intended to fit within an overall scheme of production development within the PEDL area and should ensure as far as practicable that production sites are located in the least environmentally sensitive areas of the resource.~~

- iii) In order to reduce the potential for production of hydrocarbons to result in adverse cumulative impact, proposals for production of hydrocarbons will be supported in locations consideration should be given, where feasible, to where beneficial use can be made of existing or planned supporting infrastructure including, where relevant, pipelines for transport of gas and/or water, facilities for the processing or generation of energy from extracted gas and overhead or underground power lines and grid connections which could serve the development.
- iv) Where development of new processing, power or pipeline infrastructure is required, consideration should be given to how the location and design of the development could facilitate its use for multiple well pads in order to reduce adverse cumulative impact. The Minerals Planning Authority will support co-ordination between operators and the development of shared infrastructure where this will help reduce overall adverse impacts from hydrocarbon development.
- v) New processing or energy generation infrastructure for hydrocarbons should, as a first priority where reasonably feasible, be sited on brownfield, industrial or employment land. Where it can be demonstrated that development of agricultural land is required, and subject first to other locational requirements in Policies M16 and M17, proposals should where feasible seek to utilise land of lower quality in preference to higher quality.

Comment [HSF25]: Policy recognises that development is iterative and each application will be assessed on its own merits in terms of impacts and cumulative impacts with other sites. The latter part of this sentence appears to apply a sequential test (ie requiring 'least environmentally sensitive areas' to be selected) which is not required by national policy, nor is it justified.

3) Local economy.

~~Hydrocarbon development will be permitted in locations where a high standard of protection can be provided to environmental, recreational, cultural, heritage or business assets important to the local economy including, where relevant, important visitor attractions. The timing of short term development activity likely to generate high levels of noise or other disturbance, or which would give rise to high volumes of heavy vehicle movements, should be planned to avoid or, where this is not practicable minimise, impacts during local school holiday periods.~~

Comment [HSF26]: There is no justification for the application of a sequential test in relation to siting. There will be a number of factors which will need to be weighed up by operators and MPAs in relation to siting. Use of brownfield or industrial land will be one of those factors, but will need to be weighed against other on a case-by-case basis.

Comment [HSF27]: Same comment as above.

4) Specific local amenity considerations relevant to hydrocarbon development

- i) Hydrocarbon development will be permitted provided that any unacceptable impacts (including but not limited to) noise, dust, visual intrusion, transport, and lighting, on both the natural, historic and quilt environment and local community including air quality and water environment, can be minimised and/or mitigated, to an acceptable level.

Comment [HSF28]: Unnecessarily restrictive and unjustified. These issues can be managed most appropriately on a case-by-case basis through mitigation and traffic management plans.

Comment [HSF29]: Buffer zones are not consistent with national policy and unjustified. We have replaced the buffer zone approach with general wording about the need to mitigate impacts, copied from the West Sussex Plan (Policy M7a(a) (iii) and M7b(a)(iii)).

~~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 ensure a high level of protection 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 in exceptional circumstances.~~

- ii) Proposals should refer to any relevant data from baseline monitoring and other available information to ensure that a robust assessment of potential impacts is undertaken, and that comprehensive mitigation measures are proposed where necessary.
- iii) Proposals involving hydraulic fracturing should assess be accompanied by an air quality monitoring plan and health impacts as part of any environmental impact assessment Assessment.

5) Location of new waste management facilities

~~Where new off-site waste management facilities are proposed in the Plan area for the management or disposal of waste arising from hydrocarbons development, these should be located in accordance with the principles identified in Policies W10 and W11.~~

Main responsibility for implementation of policy: NYCC , NYMNP, CYC and District and Minerals industry

Key links to other relevant policies and objectives

M17, M18, I02, D01, D02, D03, D04, D05, D06, D07, D08, D09, D10, D11, D12	Objectives 5, 6, 9, 10, 12
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Monitoring: Monitoring indicator 17 (see Appendix 3)

Comment [HSF30]: Air quality monitoring plans are a matter for the EA as part of permitting. HIA should not be required – health impacts to be assessed as part of EIA.

Comment [HSF31]: We have moved this from Policy M18 as it sits better in M17

Policy M18: Restoration and Aftercare ~~Other specific criteria applying to hydrocarbon development~~

1) Waste management and reinjection wells

~~i) Proposals for hydrocarbon development will be permitted where it can be demonstrated, through submission of a waste water management plan, that arrangements can be made for the management or disposal of any returned water and Naturally Occurring Radioactive Materials arising from the development. Proposals should, where practicable and where a high standard of environmental protection can be demonstrated, provide for on-site management of these wastes through re-use, recycling or treatment. Where off-site management or disposal of waste is required, proposals should demonstrate that adequate arrangements can be made for this. Where new off-site facilities are proposed in the Plan area for the management or disposal of waste arising from hydrocarbons development, these should be located in accordance with the principles identified in Policies W10 and W11.~~

~~ii) Proposals for development involving re-injection of returned water via an existing borehole, or the drilling and use of a new borehole for this purpose, will only be permitted in locations where a high standard of protection can be provided to ground and surface waters; they would comply with all other relevant requirements of Policy M16 and M17 and where it can be demonstrated~~

Comment [HSF32]: Dealing with NORM and waste water is largely a matter for the EA. The MPA's remit to deal with the planning impacts is already covered in general terms by our new Policy M17(4)(i)

Comment [HSF33]: We have moved this part of the policy to M17, as it sits better in M17.

that any risk from induced seismicity can be mitigated to an acceptable level.

Comment [HSF34]: ReInjection of water and seismicity are largely matters for the EA. Any planning impacts may be considered by the MPAs by virtue of my new M17(4)(i)

~~2) Decommissioning and restoration~~

Proposals for hydrocarbon development will be permitted where, subject to other regulatory requirements, it can be demonstrated that:

- i) ~~Following completion of the operational phase of development proper restoration and aftercare of the site should be secured through imposition of suitable planning conditions and, where necessary, through s106 agreements any wells will be decommissioned so as to prevent the risk of any contamination of ground and surface waters and emissions to air; and~~
- ii) All plant, machinery and equipment not required to be retained at the site for operational purposes would be removed and the land restored to its original use or other agreed beneficial use within an agreed timescale.
- iii) ~~For unconventional hydrocarbon development, the Mineral Planning Authority may require provision of a financial guarantee, appropriate to the scale, nature and location of the development proposed, in order to ensure that the site is restored and left in a condition suitable for beneficial use following completion of the development.~~

Comment [HSF35]: This revised wording reflects Minerals PPG 127. The original wording is deleted on the basis that it implied that it was the LPA's duty to ensure decommissioning of wells takes place in a safe way – this is the remit of other regulators.

Main responsibility for implementation of policy: NYCC , NYMNPA, CYC and District and Minerals industry

Key links to other relevant policies and objectives

M17, M18, S01, S05, D01, D02, D03, D04, D05, D06, D07, D08, D09, D10, D11, D12, W08	Objectives 5, 6, 9, 10, 12
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Monitoring: Monitoring indicator 18 (see Appendix 3)

Comment [HSF36]: Since the remit of MPAs is the restoration and aftercare of the surface of the land only (decommissioning at sub-surface being a matter for other regulators) we do not see any justification for requiring that a financial guarantee for such surface restoration and aftercare is required from unconventional developers any more than for conventional developers. PPG 048 states that a financial guarantee will only just justified in "exceptional cases" including where "a novel approach or technique is to be used". However, the restoration and aftercare of the surface of hydrocarbon sites is not novel and should not therefore require a guarantee. Gregg Clarke's recent announcement that Gvt will look into the financial strength of companies before issuing hydraulic fracturing consents should also be noted by MPAs.

Policy S01: Safeguarding mineral resources

S01: Safeguarding mineral resources

Part 1) - Surface mineral resources:

The following ~~Safeguarded s~~Surface ~~M~~minerals ~~R~~resources ~~areas~~ and associated buffer zones identified on the Policies Map will be safeguarded from other forms of surface development to protect the resource for the future:

- i) All crushed rock and silica sand resources with an additional 500m buffer;
- ii) All sand and gravel, clay and shallow coal resources with an additional 250m buffer;
- iii) Building stone resources and active and former building stone quarries with an additional 250m buffer.

Part 2) - Deep mineral resources:

Comment [HSF37]: To reflect wording used in Policy Map 13

Potash and polyhalite resources within the Boulby Mine licensed area and Doves Nest Farm indicated and inferred resource area, identified on the Policies Map, will be safeguarded from other forms of surface development to protect the resource for the future.

Reserves and resources of potash and polyhalite identified on the Policies Map, including a 2km buffer zone, will also be protected from sterilisation by other forms of underground minerals extraction, deep drilling and the underground storage of gas or carbon in order to protect the resource for the future.

Policy S02: Developments proposed within Minerals Safeguarding Areas

Part 1) - Surface mineral resources:

Within Surface Minerals Safeguarding Areas shown on the Policies Map, permission for development other than minerals extraction will be granted where:

- i) It would not sterilise the mineral or prejudice future extraction; or
- ii) The mineral will be extracted prior to the development (where this can be achieved without unacceptable impact on the environment or local communities), or
- iii) The need for the non-mineral development can be demonstrated to outweigh the need to safeguard the mineral; or
- iv) It can be demonstrated that the mineral in the location concerned is no longer of any potential value as it does not represent an economically viable and therefore exploitable resource; or
- v) The non-mineral development is of a temporary nature that does not inhibit extraction within the timescale that the mineral is likely to be needed; or
- vi) It constitutes 'exempt' development (as defined in the Safeguarding Exemption Criteria list).

Applications for development other than mineral extraction in Minerals Safeguarding Areas should include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the proposed development.

Part 2) - Deep ~~M~~minerals ~~R~~resources:

In areas identified as ~~Safeguarded Deep Underground~~ Mineral ~~Safeguarding Resources a~~Areas on the Policies Map, proposals for the following types of development should be accompanied by information ~~assessing but (i)~~ the effect of the proposed development on the potential future extraction of the safeguarded ~~underground deep mineral~~

Comment [HSF38]: To reflect Policies Map wording

resources ~~and (ii), as well as on~~ the potential for the ~~proposed~~-surface development to be impacted by subsidence arising from ~~the past or future~~ working of the underlying minerals resource:

- Large institutional and public buildings;
- Major industrial buildings including those with sensitive processes and precision equipment vulnerable to ground movement;
- Major retail complexes;
- Non-residential high rise buildings (3 storeys plus);
- Strategic gas, oil, naphtha and petrol pipelines;
- Vulnerable parts of main highways and motorway networks (e.g. viaducts, large bridges, service stations and interchanges);
- Security sensitive structures;
- Strategic water pumping stations, waterworks, reservoirs, sewage works and pumping stations;
- Ecclesiastical property;
- Power stations; and
- Wind turbines

Permission will be granted where ~~(a)~~ the assessment demonstrates that a significant risk of adverse impact on the development from mining subsidence will not arise ~~and (b) or that any of the criteria set out at (ii), (iii) or (iv)~~ in Part 1) of the Policy ~~(other than the final criterion)~~ are met.

Part 3) – Protecting potash and polyhalite ~~mineral~~ resources from other underground ~~minerals~~ development:

Where proposals for deep drilling or development of underground gas resources or the underground storage of gas or carbon are located within the ~~Safeguarded Deep Mineral Resources areas~~ ~~area safeguarded for potash~~, salt and polyhalite shown on the Policies Map, permission ~~for development will only~~ be granted where ~~either (a)~~ it can be demonstrated ~~to the satisfaction of the relevant regulatory authorities with responsibility for supervising those types of development at sub-surface (the Coal Authority, the Environment Agency, the Health & Safety Executive and the Oil & Gas authority or any successor authority)~~ that the proposed development will not adversely affect the potential future extraction of the protected mineral ~~resources or (b) either criterion (iii) or (iv) in Part 1) of the Policy is met.~~

Comment [HSF39]: The first, fifth and sixth of the six listed criteria cannot apply to this type of large-scale permanent development. For example you cannot say that it is a "temporary" development as required in terms of criterion v). Also it has to be "and" rather than "or" - it cannot be the case that a subsidence risk would be accepted simply because one of the criterion happened to be met.

Comment [HSF40]: Salt is not mentioned in the Policies Map or the justification text

Comment [ST41]: It should be made clear that responsibility for assessing the issue of whether or not the sub-surface development has the potential to sterilise the resource should lie with the agencies who have the requisite skill set to assess the technical information and come to an informed decision.

Comment [HSF42]: If the appropriate regulatory authority has confirmed that the mineral resources will not be sterilised by sub-surface unconventional gas operations only two of the five listed criteria are relevant.

APPENDIX 2

CLEAN COPY OF DRAFT PLAN POLICIES AS PROPOSED TO BE MODIFIED

Definitions

5.1 To ensure that the local policy approach to hydrocarbon development is as clear as it can be, it is helpful to define some key words and concepts that will be used by the Mineral Planning Authorities when implementing the Joint Plan:

- a) 'Designated Areas' means North Yorkshire National Park, AONBs, Protected Groundwater Source Areas, the Fountains Abbey/Studley Royal World Heritage Site, Scheduled Monuments, Heritage Coast, Registered Historic Battlefields, Grade I and II* Registered Parks and Gardens, Areas which Protect the Historic Character and Setting of York, Special Protection Areas, Special Areas of Conservation, Ramsar sites and Sites of Special Scientific Interest.
- b) 'Hydrocarbon development' includes all development activity associated with exploring, appraising and/or producing hydrocarbons (oil and gas), including both surface and underground development.
- c) 'Surface hydrocarbon development' and 'surface proposals' includes use and/or development of the land surface for the purposes of the exploring, appraising and/or producing hydrocarbons.
- d) 'Sub-surface hydrocarbon development' and 'sub-surface proposals' includes development taking place below the ground surface for the purposes of exploring, appraising and/or producing hydrocarbons.
- e) For the purposes of the Plan 'hydraulic fracturing' means hydraulic fracturing of shale or strata encased in shale which:
 - (i) is carried out in connection with the use of the relevant well to search or bore for or get mineral oil or relative hydrocarbon and natural gas, existing in its natural condition in strata; and
 - (ii) involves, or is expected to involve, the injection of more than 1,000 cubic metres of fluid at each stage, or expected stage, of the hydraulic fracturing, or(ii) more than 10,000 cubic metres of fluid in total.
- f) 'Planned developments' means developments which are under construction; have been permitted but not yet implemented; or in respect of which applications have been submitted
- g) 'Protected Groundwater Source Areas' means land which at the surface is:
 - (i) within 50 metres of a point at the surface at which water is abstracted from underground strata and is used to supply water for domestic or food production purposes; or
 - (ii) within or above a zone defined by a 50-day travel time for groundwater (as defined in the Environmental Permitting Regulations 2010) to reach a groundwater abstraction point that is used to supply water for domestic or food production purposes.

Policy M16: Key spatial principles for hydrocarbon development

Hydrocarbon development of the types identified below should be located in accordance with the following principles:

a)

- exploration, appraisal and production of hydrocarbons, without hydraulic fracturing;

Proposals for these forms of hydrocarbon development will be permitted in locations where they would be in accordance with Policies M17 and M18, and with regard to development proposals deemed to be major and located within North Yorkshire National Park or AONB, such proposals will not be permitted unless it has been demonstrated that there are exceptional circumstances and that it is in the public interest.

b)

- Exploration, appraisal and production of hydrocarbons, involving hydraulic fracturing;
- Surface proposals for these forms of hydrocarbon development will only be permitted where they would be outside the following designated areas: North Yorkshire National Park, AONBs, Protected Groundwater Source Areas, and the Fountains Abbey/Studley Royal World Heritage Site.
 - Sub-surface proposals for these forms of hydrocarbon development, including lateral drilling, underneath or in close proximity to Designated Areas will be permitted where it can be demonstrated that special care will be taken to avoid harming the Designated Areas and the special qualities of the North Yorkshire National Park and/or setting and value of AONBs and other Designated Areas.
 - Sub-surface proposals involving hydraulic fracturing will not be permitted above 1,200 metres underneath the North Yorkshire National Park, AONBs, World Heritage Sites or Protected Groundwater Source Areas, and will not be permitted in any other areas above 1,000 metres from the surface of the relevant land.
 - Surface and sub-surface proposals for these forms of hydrocarbon development will also be required to be in accordance with Policies M17 and M18.

c) Conversion of well pads and wells for further or alternative forms of hydrocarbon development:

Where proposals are brought forward for the conversion of an exploration well pad or individual well to one to be used for appraisal and/or production purposes, or for the conversion of a well pad or individual well used for hydrocarbons developed without hydraulic fracturing to one to be used for hydrocarbons to be developed with hydraulic fracturing, such proposals shall be subject to the spatial principles set out in this Policy as relevant. NB. The suitability of minor proposals for alterations to permitted operations will instead be considered against the Development management policies.

Policy M17: Other spatial and locational criteria applying to hydrocarbon development

1) Accessibility and transport

- i) Hydrocarbon development will be permitted in locations with suitable direct or indirect access to classified A or B roads and where it can be demonstrated through a Transport Assessment that the residual transport impacts (taking into account mitigation measures such as traffic controls, highway improvements and/or traffic routing arrangements) are not severe, taking into account:**
 - a) Capacity within the road network for the level of traffic proposed and the nature, volume and routing of traffic generated by the development, impact on local communities¹⁰, businesses or other users of the highway; and**
 - b) Access arrangements to the site, which must be appropriate to the volume and nature of any road traffic generated and safe and ensure that suitable access can be achieved for all users of the site, including the needs of non- motorised users where relevant; and**
 - c) The need for suitable arrangements to be put in place for on-site manoeuvring, parking and loading/unloading.**
- ii) Where access infrastructure improvements are needed to ensure that the requirements of i) a) and b) above can be complied with, information on the nature, timing and delivery of these should be included within the proposals.**
- iii) Where produced hydrocarbons need to be transported to facilities or infrastructure not located at the point of production, including to any remote processing facility or the gas transmission system, consideration should be given to use of underground pipeline, where feasible, with the routing of pipelines selected to minimise environmental or amenity impact. Where hydraulic fracturing is proposed, consideration should be given to locating proposals, where feasible, where a water supply can be made available minimising the need for bulk road transport of water.**

2) Cumulative impact

- i) Hydrocarbon development will be permitted in locations where it would not give rise to unacceptable cumulative impact, as a result of a combination of individual impacts from the same development and/or through combinations of impacts in conjunction with other existing, unrestored hydrocarbons development or planned developments.**
- ii) Assessment of the contribution to cumulative impact arising from a proposal for hydrocarbon development will include (but not necessarily be limited to) consideration of:**
 - a) The proximity of a proposed new well pad site to other existing, permitted or unrestored well pads, and the extent to which any combined effects would lead to unacceptable impacts on the environment or local communities, including as a result of any associated transport impacts; and**
 - b) The sensitivity of the receiving environment, taking into account the nature and distribution of any environmental constraints, proximity to local communities, the availability of adequate access links to the highway network and the need to ensure a high standard of**

¹⁰ For the purposes of interpreting this and other Policies in the Plan, the term 'local communities' includes residential areas as well as residential institutions such as residential care homes, children's homes, social services homes, hospitals and non-residential institutions such as schools.

<p>protection in line with other relevant policies in the Plan.</p> <p>iii) In order to reduce the potential for production of hydrocarbons to result in adverse cumulative impact, proposals for production of hydrocarbons consideration should be given, where feasible, to where beneficial use can be made of existing or planned supporting infrastructure including, where relevant, pipelines for transport of gas and/or water, facilities for the processing or generation of energy from extracted gas and overhead or underground power lines and grid connections which could serve the development.</p> <p>iv) Where development of new processing, power or pipeline infrastructure is required, consideration should be given to how the location and design of the development could facilitate its use for multiple well pads in order to reduce adverse cumulative impact. The Minerals Planning Authority will support co-ordination between operators and the development of shared infrastructure where this will help reduce overall adverse impacts from hydrocarbon development.</p> <p>v) New processing or energy generation infrastructure for hydrocarbons should, where reasonably feasible, be sited on brownfield, industrial or employment land. Where it can be demonstrated that development of agricultural land is required, and subject first to other locational requirements in Policies M16 and M17, proposals should where feasible seek to utilise land of lower quality in preference to higher quality.</p>	
<p>3) Specific local amenity considerations relevant to hydrocarbon development</p> <p>i) Hydrocarbon development will be permitted provided that any unacceptable impacts (including but not limited to) noise, dust, visual intrusion, transport, and lighting, on both the natural, historic and built environment and local community including air quality and water environment, can be minimised and/or mitigated, to an acceptable level.</p> <p>ii) Proposals should refer to any relevant data from baseline monitoring and other available information to ensure that a robust assessment of potential impacts is undertaken, and that comprehensive mitigation measures are proposed where necessary.</p> <p>iii) Proposals involving hydraulic fracturing should assess health impacts as part of any environmental impact assessment.</p>	
<p>4) Location of new waste management facilities</p> <p>i) Where new off-site waste management facilities are proposed in the Plan area for the management or disposal of waste arising from hydrocarbons development, these should be located in accordance with the principles identified in Policies W10 and W11.</p>	
<p>Main responsibility for implementation of policy: NYCC , NYMNPA, CYC and District and Minerals industry</p>	
<p>Key links to other relevant policies and objectives</p>	
<p>M17, M18, I02, D01, D02, D03, D04, D05, D06, D07, D08, D09, D10, D11, D12</p>	<p>Objectives 5, 6, 9, 10, 12</p>
<p>Monitoring: Monitoring indicator 17 (see Appendix 3)</p>	

Policy M18: Restoration and Aftercare

- 1) Proposals for hydrocarbon development will be permitted where, subject to other regulatory requirements, it can be demonstrated that:
- i) Following completion of the operational phase of development, proper restoration and aftercare of the site should be secured through imposition of suitable planning conditions and, where necessary, through s106 agreements; and
 - ii) All plant, machinery and equipment not required to be retained at the site for operational purposes would be removed and the land restored to its original use or other agreed beneficial use within an agreed timescale.

Main responsibility for implementation of policy: NYCC , NYMNPA, CYC and District and Minerals industry

Key links to other relevant policies and objectives

M17, M18, S01, S05, D01, D02, D03, D04, D05, D06, D07, D08, D09, D10, D11, D12, W08

Objectives 5, 6, 9, 10, 12

Monitoring: Monitoring indicator 18 (see Appendix 3)

Policy S01: Safeguarding mineral resources

S01: Safeguarding mineral resources

Part 1) - Surface mineral resources:

The following Safeguarded Surface Minerals Resources areas and associated buffer zones identified on the Policies Map will be safeguarded from other forms of surface development to protect the resource for the future:

- i) All crushed rock and silica sand resources with an additional 500m buffer;
- ii) All sand and gravel, clay and shallow coal resources with an additional 250m buffer;
- iii) Building stone resources and active and former building stone quarries with an additional 250m buffer.

Part 2) - Deep mineral resources:

Potash and polyhalite resources within the Boulby Mine licensed area and Doves Nest Farm indicated and inferred resource area, identified on the Policies Map, will be safeguarded from other forms of surface development

to protect the resource for the future.

Reserves and resources of potash and polyhalite identified on the Policies Map, including a 2km buffer zone, will also be protected from sterilisation by other forms of underground minerals extraction, deep drilling and the underground storage of gas or carbon in order to protect the resource for the future.

Policy S02: Developments proposed within Minerals Safeguarding Areas

Part 1) - Surface mineral resources:

Within Surface Minerals Safeguarding Areas shown on the Policies Map, permission for development other than minerals extraction will be granted where:

- i) It would not sterilise the mineral or prejudice future extraction; or**
- ii) The mineral will be extracted prior to the development (where this can be achieved without unacceptable impact on the environment or local communities), or**
- iii) The need for the non-mineral development can be demonstrated to outweigh the need to safeguard the mineral; or**
- iv) It can be demonstrated that the mineral in the location concerned is no longer of any potential value as it does not represent an economically viable and therefore exploitable resource; or**
- v) The non-mineral development is of a temporary nature that does not inhibit extraction within the timescale that the mineral is likely to be needed; or**
- vi) It constitutes 'exempt' development (as defined in the Safeguarding Exemption Criteria list).**

Applications for development other than mineral extraction in Minerals Safeguarding Areas should include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the proposed development.

Part 2) - Deep Mineral Resources:

In areas identified as Safeguarded Deep Mineral Resources areas on the Policies Map, proposals for the following types of development should be accompanied by information assessing (i) the effect of the proposed development on the potential future extraction of the safeguarded deep mineral resources and (ii) the potential for the surface development to be

impacted by subsidence arising from the past or future working of the underlying minerals resource:

- **Large institutional and public buildings;**
- **Major industrial buildings including those with sensitive processes and precision equipment vulnerable to ground movement;**
- **Major retail complexes;**
- **Non-residential high rise buildings (3 storeys plus);**
- **Strategic gas, oil, naphtha and petrol pipelines;**
- **Vulnerable parts of main highways and motorway networks (e.g. viaducts, large bridges, service stations and interchanges);**
- **Security sensitive structures;**
- **Strategic water pumping stations, waterworks, reservoirs, sewage works and pumping stations;**
- **Ecclesiastical property;**
- **Power stations; and**
- **Wind turbines.**

Permission will be granted where (a) the assessment demonstrates that a significant risk of adverse impact on the development from mining subsidence will not arise and (b) any of the criteria set out at ii), iii) or iv) in Part 1) of the Policy are met.

Part 3) – Protecting potash and polyhalite mineral resources from other underground development:

Where proposals for deep drilling or development of underground gas resources or the underground storage of gas or carbon are located within the Safeguarded Deep Mineral Resources areas, salt and polyhalite shown on the Policies Map, permission will be granted where either (a) it can be demonstrated to the satisfaction of the relevant regulatory authorities with responsibility for supervising those types of development at sub-surface (the Coal Authority, the Environment Agency, the Health & Safety Executive and the Oil & Gas authority or any successor authority) that the proposed development will not adversely affect the potential future extraction of the protected mineral resources or (b) either criterion (iii) or (iv) in Part 1) of the Policy is met.

APPENDIX 3

PROPOSED CHANGES TO THE "POLICY JUSTIFICATION" TEXT

Hydrocarbons (oil and gas)

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- 5.93 Since work started on the Joint Plan, there has been increasing public and commercial interest in issues associated with developing onshore ~~shale gas~~ [hydrocarbon](#) resources, [and in particular shale gas](#). This is a highly relevant issue ~~for the Plan area~~ following the announcement in late 2015 of new oil and gas exploration and development licences (PEDLs) in the eastern part of the [Joint plan](#) area (see fig. 12); ~~as well as the approval in 2016 of proposals for hydraulic fracturing for shale gas at an existing well site near Kirby Misperton, in Ryedale District. Nevertheless, substantial~~ [However](#), uncertainties remain about the scale and distribution of any future [development](#) proposals that could come forward.
- 5.94 The Oil and Gas Authority awards PEDLs to give exclusivity to operators who meet certain criteria to ‘search and bore for and get’ oil and gas resources, which are owned by the Crown. Whilst a key objective of the licensing process is to help ensure maximum exploitation of a national resource, the award of a licence does not confer any exemption from other legal and regulatory requirements. Compliance with a range of regulatory processes is required, including the need to obtain planning permission. Development Plans, including the Joint Plan, have statutory force under the Planning and Compulsory Purchase Act 2004 and applications for planning permission need to be determined in accordance with the Development Plan, unless there are material considerations which indicate otherwise. The licensing objective of maximising exploitation of the resource does not therefore override the role of the policies in the Joint Plan in setting out a local approach to this issue.

Figure 12: PEDL blocks and blocks announced in 14th licensing round (2015)

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- 5.95 The expected increase in commercial interest in [gas onshore hydrocarbons](#) in the [Joint Plan](#) area in future years, including shale gas, together with the highly sensitive nature of the environment in large parts of the area covered by new and existing PEDLs, presents a significant challenge. An appropriate balance has to be achieved between provision of a degree of support and flexibility to enable development to take place in appropriate locations, and the need to provide a high standard of protection to local communities and the environment. This section of the Joint Plan sets out ~~a comprehensive range of~~ [the](#) policies that aim to achieve this balance.
- 5.96 The evolving picture in relation to onshore hydrocarbon development means that the policies in this section of the Joint Plan may need to be reviewed and updated in future (para. 4.11 identifies circumstances which may justify a review).

Hydrocarbons in the Plan area

- 5.97 National planning guidance states that both conventional and unconventional hydrocarbons (oil and gas) are minerals of national and local importance and that minerals plans should include policies for their extraction. There is no known oil resource in the [Joint Plan](#) area but resources of [natural](#) gas are present and have been exploited over a substantial period of time. Recent geological information ~~suggests~~ [indicates](#) there may be significant further resources of shale gas in the area.
- 5.98 Conventional hydrocarbons are oil or gas which has accumulated in a 'reservoir' of porous rock such as sandstone or limestone and which can be extracted by conventional drilling [and extraction](#) techniques. Conventional gas was first discovered in the North York Moors in the 1940s. In the 1970s, gas was extracted from a wellhead in the National Park and processed at a site in Pickering, although this operation was only short lived as a result of water ingress. In the 1980s successful exploration wells were drilled in the Vale of Pickering and in 1995 the Knapton gas power generation plant was commissioned, with gas being sourced from a number of well sites within the Vale, at Kirkby Misperton, Marishes, Malton, and Pickering. Production continues, and the Vale of Pickering contains one of the larger onshore gas fields in the UK. More recently, further exploratory drilling for conventional hydrocarbons development has taken place within the National Park, with a view to extracting gas for transport via pipeline to the Knapton facility.
- 5.99 To date, exploration, appraisal and production of conventional gas resources in the Plan area, including within the National Park, have been carried out without giving rise to unacceptable impact on the environment and the onshore gas industry remains an established part of the local economy.
- 5.100 More recently, there has been interest in unconventional hydrocarbons as a form of energy supply. These ~~are hydrocarbons which cannot be extracted by conventional techniques and~~ include sources of hydrocarbons such as methane captured from coal mines, coal bed methane, underground coal gasification, ~~as well as~~ [and](#) shale gas.
- 5.101 *Coal mine methane* is vented from active or disused underground mine workings following the natural accumulation of gas in the underground void. It is a relatively simple process typically involving collection and transfer of the gas to a generating engine, located at the surface, which burns the gas to produce electricity. Coal mine methane is currently used in this way in the Selby Coalfield, for example at the former Stillingfleet mine site in Selby district. [The proactive capture and utilisation of Coal mine methane avoids the normal practice of cold venting, which was used to maintain site safety. The utilisation of this gas offers significant environmental benefits.](#) Coalbed

methane is produced during the process of coal formation. The gas is either adsorbed
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11/476530501_n2707 the coal or dispersed into pore spaces around the coal seam. By drilling a network of wells the gas can be extracted from coal seams which have not been mined. The gas is typically extracted via the well through natural pressure release, or through the pumping of water from the seam in order to reduce pressure. Exploration has taken place near Shipton by Beningbrough to the north of York in recent years, however there is no expectation that production will be brought forward in the foreseeable future. Development of coal bed methane can involve a requirement for multiple well pads and wells in order to access a sufficient volume of resource.

- 5.102 ~~Like coal-bed methane extraction,~~ *Underground Coal Gasification*, like coal-bed methane extraction, can be carried out on seams of coal which have not been mined. It is achieved by drilling boreholes into the coal seam, injecting water/oxygen mixtures down one pipe, igniting and partially combusting the coal and then extracting the gasification products through another pipe from the same pad. It produces a mixture of gases including carbon monoxide, carbon dioxide, hydrogen and methane that can be processed to provide fuel for power generation, vehicle fuels and chemical feed stocks. Substantial surface infrastructure can be associated with Underground Coal Gasification. Although resources of coal potentially suitable for underground coal gasification are likely to occur in the area, there is no known commercial interest in this source of gas at present.
- 5.103 *Shale gas* is found within organic-rich shale beds or other fine-grained rocks with low porosity, rather than in a conventional ‘reservoir’ of porous or permeable rock, although the gas itself is the same as other forms of natural gas and could provide energy to both industrial and domestic ~~power. Resources~~users. Geological resources of shale gas in the UK are likely to occur at substantial depths (between 1500m and 4200m) below ground.
- 5.104 A recent British Geological Survey report ‘The Carboniferous Bowland Shale Gas Study: Geology and Resource Estimation’ (July 2013) identifies potentially suitable shale deposits (in both the Upper and Lower Bowland Hodder shales) which extend at depth ~~right~~ across northern England, as far north as a line approximately between Lancaster and Whitby. In particular it identifies prospective areas for gas in Ryedale, Scarborough, Hambleton and Selby Districts, as well as the North York Moors and York. The exploitation of shale gas in the UK involves technologies such as hydraulic fracturing to enhance the production potential for the reservoir. (‘fracking’)¹⁰.
- 5.105 Whilst permission for hydraulic fracturing of an existing gas well near Kirby Misperton was granted in 2016, there is still a high degree of uncertainty about the commercial viability of any resources in this area or the UK generally, and hence the potential scale or distribution of development activity that may come forward. This uncertainty is likely to prevail until further exploration activity and appraisal has taken place.
- 5.106 ~~However, shale~~Shale gas has the potential to be an important new source of energy for the UK and the Government is currently encouraging further exploration. In autumn 2012 the Government announced an overall strategy for gas, to ensure that the best use is made of gas power, including new sources of gas under the land, in order to deliver a range of objectives including improved security of energy supply and as part of a transition towards use of lower carbon energy sources¹¹. In 2014 the Government published online Planning Practice Guidance entitled ‘planning for hydrocarbon extraction’. It stated, amongst other matters, that “[a]s an emerging form of energy

¹⁰ In some circumstances hydraulic fracturing techniques can also be applied in the development of conventional gas sources, for example for purposes of well stimulation to increase the yield of gas. See para. 5.109 for a description of the hydraulic fracturing process.

¹¹ Provision of policy support for the minimisation of greenhouse gas emissions as part of the sustainable design, construction and operation of minerals and waste development is addressed in Policy D11 in Chapter 9.

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supply, there is a pressing need to establish - through exploratory drilling - whether or there are sufficient recoverable quantities of unconventional hydrocarbons such as shale gas and coal bed methane present to facilitate economically viable full scale production". More recently, in September 2015, a Ministerial Written Statement by Government indicated that there is a national need to explore and develop shale gas in a safe, sustainable and timely way.

Summary of the process of hydrocarbons development

5.107 There are three main phases of onshore hydrocarbon development identified in national planning guidance: exploration, appraisal and production, as summarised below. Development relating to each of these main phases falls within the scope of the Policies in the Joint Plan. However, the distinctions between the phases may not always be clear cut. For example, hydraulic fracturing for unconventional gas can be associated with each of the main phases [in order to assess and confirm productivity](#).

! *Exploration* - seeks to acquire geological data to establish whether hydrocarbons are present. It may involve 2-dimensional or 3-dimensional seismic surveys, exploratory drilling, well testing and completion and, in the case of shale gas, hydraulic fracturing. For conventional hydrocarbons, exploration drilling onshore is a short-term, but intensive, activity. Typically, site construction, drilling and site clearance will take between 12 to 25 weeks. For unconventional hydrocarbons, exploratory activity may take **considerably** longer, especially if hydraulic fracturing¹² is involved and, in the case of coalbed methane, removal of water from the coal seam.

! *Appraisal* - takes place following exploration when the existence of oil or gas has been proved, but the operator needs further information about the extent of the deposit or its production characteristics, to establish whether it can be commercially exploited. The appraisal phase can take several forms including additional seismic work, longer-term flow tests, or the drilling of further wells. This may involve additional drilling at another site away from the exploration site, or additional wells at the original exploration site. For unconventional hydrocarbons it may involve further hydraulic fracturing followed by flow testing to establish the size of the resource and its potential productive life. The size and complexity of the hydrocarbon reservoir involved will be important in determining the approach [that could be](#) taken.

! *Production* - normally involves the drilling of a number of wells at one or more well pads. These may be at well pads used at the exploratory and/or appraisal phases of hydrocarbon development, or from one or more new well pads. Associated equipment and infrastructure, such as pipelines and processing facilities needed to clean or compress or store gas may also be required. Production can be up to around 20 years. The production stage may involve re-fracturing of existing wells and is likely to require the periodic maintenance of wells, which may require use of drilling equipment.

5.108 The following diagram illustrates the main regulatory approvals required, taken from of the online Planning Practice Guidance. Please note that the references to 'DECC' in Figure 13 should now be read as references to DBEIS as its successor. Further details of other relevant regulatory regimes are discussed later.

¹² See para. 5.109 for a description of the hydraulic fracturing process

Figure 13: Outline of process for drilling an exploratory well

- 5.109 With all hydrocarbon appraisal or production, whether conventional or unconventional, a well is drilled and a number of steel casings are set in cement to seal and help prevent any contamination of ground water. In some cases, particularly for shale gas wells, horizontal drilling at depth may take place to enable maximum exposure to the gas resource. Gas held within shale beds or other rocks of low porosity is then accessed through hydraulic fracturing (fracking). This involves injecting the rock with liquid at high pressure to generate or widen small fractures. Small particles (usually sand) are also pumped into the fractures to keep them open when the pressure is released so that the gas can flow into the well. Although typically 98-99% of the liquid is water, small quantities of chemicals are often added. Operators must demonstrate to the Environment Agency that all the chemicals used in the process are non-hazardous [to groundwater](#). Once the rock has been fractured some fluid returns to the surface (known as flow-back) and this will require disposal or recycling in accordance with the required environmental permits.

Figure 14: Hydraulic fracturing

- 5.110 Proposals for drilling and hydraulic fracturing, like most forms of oil and gas development, including associated processing facilities, require planning permission before development can take place. A range of other regulatory processes are also involved. The United Kingdom Onshore Oil and Gas Group (UKOOG), which represents the industry, has established a Charter for community engagement on new onshore oil and gas proposals. The Charter sets out a number of commitments for operators which includes engagement with local communities at each of the three main stages of operations. The Mineral Planning Authorities will expect applicants who are members of UKOOG to comply with these commitments when bringing forward proposals.
- 5.111 A range of issues are likely to be relevant when considering planning applications for hydrocarbon development. For example there is the potential for landscape and visual impact, impacts from noise, vibration and traffic, and impacts on the natural environment. These issues should be considered in the planning system given that its function is to control the use and development of land and ensure that new development is appropriately located. Hydrocarbon development typically involves temporary and intermittent activity particularly during the early stages of development. Depending on the nature of the development it is likely that there will generally be a lesser degree of activity during any production phase.
- 5.112 Particular concerns have been expressed about other potential impacts of the hydraulic fracturing techniques used in extraction of shale gas and some other forms of hydrocarbons development. These include matters such as pollution of ground and surface water, use of water resources and management of waste water, air pollution and the potential for ground movements (i.e. earth tremors) to be triggered. Whilst Public Health England has indicated that it does not consider that a properly regulated industry would be likely to give rise to significant risks to health, the potential for various effects on health and well-being is a key concern to local communities. The

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11/476530501_f2t8hoe land. Other regulatory regimes (see below) are relevant to the detailed control of matters such as sub-surface environmental pollution, induced seismicity, borehole design and construction and health and safety. The Environment Agency has an important regulatory role in relation to the management of returned water and Naturally Occurring Radioactive Materials (NORM). In accordance with Government advice, the Minerals Planning Authorities ~~will~~ should assume that these other regimes will operate effectively. However, where matters subject to regulation through other regimes also give rise to land use implications, the Authorities will seek to address them through the planning process.

- 5.113 In a number of cases PEDL areas straddle mineral planning authority boundaries, both within or across the boundary of the Joint Plan area (for example a number of individual PEDL areas contain land within both North Yorkshire or York and the East Riding). This gives rise to the potential for the submission of a planning application either in close proximity to the boundary of the Joint Plan area, or which directly straddles a boundary between adjacent mineral planning authority areas. Where proposals have the potential to impact on more than one mineral planning authority area, the determining mineral planning authority will consult with the adjacent authority ~~as necessary and~~ in accordance with relevant development management procedures.

Other regulatory regimes

- 5.114 ~~Each proposed development is assessed by the~~ The Environment Agency, which regulates discharges to the environment, issues water abstraction licences, and acts as a statutory consultee in the planning process. The Environment Agency has issued guidance which notes that an environmental permit will be required for matters such as the emission of waste gasses, the management of waste above ground and the disposal of waste underground. A permit will also be needed if large quantities of gas are to be flared and for groundwater activities, depending on the local hydrology.
- 5.115 All drilling operations ~~are subject~~ must be notified to ~~notifying~~ the Health and Safety Executive, which will check operators' plans, assess engineering designs and reports and be responsible for checking sites to ensure they meet the requirements of the relevant legislation. The Health and Safety Executive requires that an independent well examiner reviews the design of the well before drilling begins and subsequently monitors its' construction and operation. The drilling operations are also regulated by the Oil and Gas authority who approve each stage of the progression of the well through their WONS system (Well operations notifications system).
- 5.116 A key public concern in relation to hydraulic fracturing is the risk of ~~earth tremors~~ seismic activity. The responsibility for giving final consent for drilling lies with Oil and Gas Authority, who must review the operator's hydraulic fracture plan to minimise the risk of seismic activity. The 2014 DECC publication 'Fracking UK Shale: Understanding Earthquake Risk' refers to the small tremors which took place following fracking activity at Preese Hall near Blackpool in 2011. It states that "*the tremors measured magnitude 2.3 and 1.5 on the Richter scale. Earthquakes of this size are not normally felt at the surface...[They]...were probably caused when frack fluids flowed into a geological fault, a crack running through one or more layers of the underground rocks*".
- 5.117 In 2012 DECC (now DBEIS) introduced measures to control seismic risks from fracking. Operators are now required to assess the location of any relevant faults before fracking operations can take place. Operators must submit to DBEIS a plan of operations, starting with small test fractures before main operations and install real-time monitoring based on a traffic light system. Operators must stop and investigate if

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they detect tremors above the normal range. Further guidance on the regulation of hydrocarbons proposals is set out in the DECC publication 'Onshore Oil and Gas Exploration in the UK: regulation and best practice (England) (December 2015). A diagram illustrating the 'traffic light' system is provided below.

Figure 15: DBEIS traffic light system for regulation of hydrocarbons

5.118 Planning guidance and case law makes clear that Minerals Planning Authorities do not need to focus on the control of processes or emissions themselves where these are subject to approval under pollution control regimes. It states that they can determine

11/47653051_282 applications having considered the advice of the relevant regulatory bodies without
 11/4765305h1_a2v8izng to wait for the other approval processes to be concluded.

Policy M16: Key spatial principles for hydrocarbon development	

Policy Justification

5.119 In December 2015 a substantial number of new PEDLs were announced under the 14th Onshore Round, covering significant areas of Hambleton, Ryedale and Scarborough Districts, including areas within the North York Moors National Park and Howardian Hills AONB, as well as parts of the City of York and Selby District. It is expected that this announcement will lead to a new round of exploration activity in the area. A key difference compared with earlier activity is that there is expected to be a focus on shale gas as a target for exploration and, potentially, appraisal and development, in line with the Government's objective of stimulating commercial interest in this resource. Whilst ~~a number~~ the majority of activities associated with shale gas development are ~~similar to the same as~~ those associated with conventional ~~hydrocarbons development~~ hydrocarbon developments, including the need for the construction of a well pad and, the operations involved in initial drilling of a well, there are also a number of significant differences drilling of the wells, the management of waste materials, hydrocarbon products and ongoing monitoring, there are some additional activities. Examples may include ~~the potential for~~ increased activity associated with the hydraulic fracturing operations ~~themselves~~, the ~~expectation of the need~~ requirement to drill a greater number of wells per pad, which is likely to include horizontal wells from one or more well pads, and the potential for high ~~higher~~ noise levels during periods of hydraulic fracturing activity, ~~and~~. During the early stages of development there is the potential for increased traffic movements ~~as a result of the need to bring in additional~~ to enable materials or water and remove waste materials, which may include water and the removal of waste materials to be transported to and from the site. The nature of the development activities will vary on a case-by-case basis, and the impacts will vary depending on both the nature of those activities and the receptors, in the vicinity of development. Other forms of unconventional hydrocarbons, particularly Underground Coal Gasification and coal bed methane, can also give rise to a need for substantial development activity at the surface as a result of the processes involved, particularly at appraisal or production stages. ~~5.120~~ It is expected that the majority of projects would be subject to EIA, which will consider all potential impacts associated with proposals. The NPPF indicates that great weight should be given to conserving landscape and scenic beauty in National Parks and AONBs, which have the highest status of protection in relation to landscape and scenic

beauty. The Infrastructure Act 2015 has introduced a ban on hydraulic fracturing

taking place anywhere at a depth less than 1000m below the ground surface.

The Government has also set out through secondary legislation to the Infrastructure Act, which came into force on 6 April 2016¹³, that high volume hydraulic fracturing¹⁴ will not be supported beneath National Parks, AONBs, protected groundwater source areas and World Heritage sites, unless it would take place at a depth in excess of 1,200m below the surface. These controls do not remove the potential for lateral hydraulic fracturing at a greater depth under the National Park, AONBs or other protected areas, from surface locations beyond their boundary, or expressly prevent the possibility of surface development for the purposes of shale gas development, or development for other forms of unconventional hydrocarbons, in these areas. When considering the potential impact of a development on the special qualities of a National Park or AONB, reference to their special qualities can be found in the relevant Management Plan for the area. Whilst the specific qualities relevant to each protected landscape may differ from one another, they will all include qualities relating to landscape and views, tranquillity, biodiversity and geodiversity and rare species and heritage, and it is the combination of these qualities that led to these areas being designated and protected as National Parks and AONBs. As such, development which would result in significant harm to the special qualities of a National Park or AONB will generally be resisted.

5.120 ~~5.121~~ While the Infrastructure Act 2015 and secondary legislation address hydraulic fracturing which occurs underground, the Government has also introduced further restrictions, in the form of a prohibition on hydraulic fracturing operations from taking place from new or existing wells that are drilled at the surface in specified protected areas. The restrictions will principally affect surface development that is used for the carrying out of "associated hydraulic fracturing" the definition of which is contained in section 4B(1) of the Petroleum Act 1998. The Government has stated that, in addition, these restrictions will apply where an operator is required to get consent from the Secretary of State for hydraulic fracturing that is not "associated hydraulic fracturing", and that the Secretary of State intends to require that such consent be obtained for operations which use more than 1,000 cubic metres of fluid at any ~~singe~~single stage, or expected stage, unless an operator can persuasively demonstrate why requiring such consent would not be appropriate in their case. The areas protected through this means are National Parks, AONBs, World Heritage Sites, Groundwater Source Protection Zone 1, SSSIs, Natura 2000 sites (SPAs and SACs) and Ramsar sites. Although these areas all benefit from strong national planning policy protection in their own right, the restrictions do not, in themselves, constitute planning policy as they will be implemented through the oil and gas licensing regime.

5.121 ~~5.122~~ The net effect of the existing restrictions would be to prevent subsurface development involving high-volume hydraulic fracturing at a depth of less than 1,000m below the surface anywhere in the Plan area, and at a depth of less than 1,200m below the surface in some highly protected areas ~~(as indicated in para. 5.121)~~ ~~However, a range of other important types of designation would not be subject to similar legislative protection. Furthermore, whilst the surface restrictions will provide protection to a range of important designations, albeit not as a matter of planning policy, there are other types of sensitive areas that would not receive equivalent protection.~~

~~5.123 An additional consideration is that the new Regulations and surface restrictions will only apply to high volume hydraulic fracturing whereas in terms of land use and the potential for impacts on the environment, local amenity and other relevant matters,~~

¹³ The Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016

¹⁴ For the purposes of the Plan the term 'high volume hydraulic fracturing' has the same definition as 'associated hydraulic fracturing', as defined via the Infrastructure Act 2015 (i.e. more than 1,000m³ of fracture fluid per frack or 10,000m³ overall).

~~impacts could occur at lower levels of activity.¹⁵ It is therefore not considered appropriate to distinguish in the Policy between high-volume hydraulic fracturing and fracking involving lower volumes of fracture fluid. Similarly, it is considered that where hydraulic fracturing is proposed for the purposes of supporting the production of conventional gas resources, there is potential for this to give rise to a generally similar range of issues and potential for this to give rise to a generally similar range of issues and potential impacts, although this is acknowledged that fracturing for stimulation of conventional gas production would be likely to involve generally lower volumes and/or pressures. In these circumstances it is therefore appropriate that such development is subject to the same policy approach. However, it is not the intention of the Mineral Planning Authorities to unreasonably restrict activity typically associated with production of conventional resources, which is a well-established industry in the Plan area and they will therefore apply the policy accordingly and reasonably based on the specific circumstances of the proposal under consideration.~~

5.122 ~~5.124~~ In view of the limited protection provided by existing and proposed legislation, as well as current uncertainty about the potential scale and geographical distribution of any commercial gas production that may be sought by industry, it is considered important that a comprehensive range of key environmental and other designations in the Plan area are afforded an appropriate degree of protection as a matter of local planning policy. This would help provide a clear, robust and consistent local approach by ensuring that their protection is incorporated within the statutory development plan. Such an approach acknowledges the very important contribution made by these designations to the overall character of the Plan area, the quality of its environment and its attractiveness to both residents and visitors. The development management policies in Chapter 9 of the Joint Plan, including Policies D04, D05, D06, D07, D08 and D09, also provide specific policy protection for these and other assets, and will need to be taken into account as relevant in the determination of planning applications. This includes the need to take account of any Impact Risk Zones identified by Natural England for SACs, SPAs, Ramsar sites and SSSIs, via the requirements of Policy D07 Biodiversity and geodiversity and impacts on the historic environment through the requirements of Policy D08 where relevant forms of surface or underground hydrocarbon development are proposed. Policy D11 also sets out requirements relating to the sustainable design, construction and operation of development, including minimisation of greenhouse gas emissions, consumption of water and generation of waste amongst other matters, in order to further reduce potential adverse impacts.

5.123 ~~5.125~~ Mining operations and drilling at any depth would constitute “development” as defined in the Town and Country Planning Act 1990 (“development” means the carrying out of building, engineering, mining or other operations in, on, over or under land, or the making of any material change in the use of any buildings or other land). Where horizontal drilling beneath a National Park is proposed from a location outside the Park, a ‘straddling’ application to both mineral planning authorities will be required. ~~As the sub-surface protections in the Infrastructure Act and the Onshore Hydraulic Fracturing (Protected Areas) Regulations only refer to high-volume hydraulic fracturing, it is considered that the starting point in local policy is that all applications for appraisal or production of unconventional hydrocarbons within the National Park and AONBs will be considered as major development and should be steered away from these highly protected areas. Further details on how proposals are assessed in terms of the major development test are set out in Policy D04.~~

5.124 ~~5.126~~ A key factor leading to designation of an area as a National Park or Area of Outstanding Natural Beauty is the quality of its landscape. These areas benefit from a

¹⁵ As an example, the recently permitted hydraulic fracturing activity at the KM8 well site in North Yorkshire involves 5 separate fracks, only one of which would exceed the 1,000m² threshold.

very high degree of protection in national policy, which states that major development within them should be refused unless there are exceptional circumstances and the development would be in the public interest. National Parks and AONBs are very important in contributing to the overall environmental quality, distinctive character and rural economy of the Plan area, yet substantial areas of PEDLs are located in them. In some cases, development outside a National Park or AONB could have an impact on its setting, and conflict with the statutory purposes of its designation. A particular consideration is whether the scale, nature and location of a proposed development would detract from the special qualities of the designated area. Tall elements of surface hydrocarbons development, such as drill rigs associated with exploration and appraisal, or production wells, may typically be 35-40m in height. ~~Such equipment may only be present on site for relatively short periods, or potentially a number of months, or intermittently over a period of years at established well pads where successive wells are drilled or refracturing of existing wells takes place. However, where they would be located in close proximity to National Parks or AONBs, they have the potential to cause significant adverse impact on the setting of these important areas. This could include impact on important views to or from the National Park or AONB, or on the dark night skies typically associated with such areas as a result of the need for site lighting during 24-hour operations at some stages of development. Further justification for the protection of the setting of National Parks and AONBs is provided in paras 9.26 and 9.27.~~ The potential impacts associated with hydrocarbon development on, or in close proximity, to such designations, should be subject to Landscape and Visual Impact Assessment (LVIA), where site specific impacts will be assessed.

5.125 ~~5.127~~ ~~In order to ensure that National Parks and AONBs are provided with a degree of protection commensurate with their significance to the landscape and overall quality of the environment within the Plan area, proposals for surface hydrocarbons development within a 3.5km zone around a National Park or AONB should be supported by detailed information assessing the impact of the proposed development on the designated area, including views into and out from the protected area. This distance is based on typical planning practice relating to assessment of landscape and visual impact for EIA purposes, where it may be justified to 'screen out' consideration of a 35m tall and relatively linear structure beyond a distance of 3.5km from the receptor. Whilst it is considered that a 3.5km zone is likely to be adequate to ensure that, in the large majority of cases, the potential for significant impacts is identified and considered, there may be particular circumstances, for example as a result of the local topography, that mean that similar information will be required in respect of proposals beyond the 3.5km zone. Prospective applicants should seek advice from the relevant Mineral Planning Authority on this matter at pre-application stage.~~ line with policy D05 on Green Belt, any proposed hydrocarbon development in the vicinity of the City of York, should include an assessment of any potential visual or landscape impacts on the City given its historic character setting.

~~5.128~~ ~~Although the City of York is not protected in the same way as National Parks and AONBs, the historic character and setting of the City is a key reason for having designated the York Green Belt, one of only six cities in England where this reason applies, and the historic City as a whole does not benefit from any other specific national policy protection. The relatively flat and low lying landscape around York allows for long distance views of the Minster and other landmark buildings which are integral to the setting of the City. For these reasons, applicants will need to consider carefully the historic character and setting of the City when siting and designing proposals for surface hydrocarbons development within the City of York Green Belt. Where necessary, mitigation measures should be provided to prevent any unacceptable impact. Further details on the Green Belt can be found in Policy D05.~~

5.126 5.129 Areas of Heritage Coast have been defined in the Plan area. In these nationally defined non-statutory areas, local planning authorities are required to 'maintain the character of the undeveloped coast, protecting and enhancing its distinctive landscapes and improve public access to and enjoyment of the coast'. Such areas are therefore afforded a relatively high level of significance in national policy terms and it is appropriate to reflect this in the spatial approach. In some parts of the Plan area affected by PEDLs, areas of locally important landscapes have been identified in District and Borough local plans. Where these continue to form part of the statutory development plan, and are relevant to a proposal, which falls to be determined by North Yorkshire County Council as Minerals and Waste Planning Authority, regard will be ~~had~~ given to the requirements of any associated local plan policy.

Policy M17: Other spatial and locational criteria applying to hydrocarbon development	

Policy Justification

5.127 5.130 The exploration and appraisal phases of oil and gas development may generate a significant number of heavy vehicle movements, mainly in the early or final stages where drilling and associated equipment is being installed or removed, or during phases when hydraulic fracturing operations are taking place. This sometimes requires abnormal loads to be transported. Large parts of the Plan area, including the majority of the area covered by PEDLs, are highly rural with a relatively sparse network of main roads. Rural roads often pass through local communities and, in many cases, have not been constructed to take a large volume of heavy vehicle movements. Vehicle movements also have the potential to impact on air quality, particularly in locations where Air Quality Management Areas have been identified and this will be a relevant consideration in identifying suitable traffic routes, via a Transport Assessment. ~~It is therefore important to ensure that~~ Where possible, development ~~is~~ should be located where there is good access to suitable road networks. This can help to ensure that traffic movements on unsuitable roads are prevented, that the flow of traffic on the highway is not impeded and that highway safety is maintained. ~~The main road network in the Plan area comprises A and B classified roads and development should be located where suitable access to these routes can be obtained without harming the amenity of local communities and businesses.~~ Proposals should include a Transport Assessment to demonstrate how suitable access ~~will to proposed sites would~~ be achieved. Where a requirement for improved access infrastructure is identified, proposals to deliver this should be provided as part of the Transport Assessment, including through the use of formal agreements under section 106 of the Town and Country Planning Act 1990 or section 278 of the Highways Act 1980, where appropriate.

5.128 5.131 Where produced gas needs to be transported off-site to remote processing facilities or other infrastructure, pipelines are normally the most appropriate method in order to minimise the need for vehicle movements and their associated impacts. As pipeline construction can itself give rise to adverse impacts, it is important that the need for new infrastructure is minimised and sharing of infrastructure is supported

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under part 2) iv) of this Policy. Where new pipelines are required, routes which seek to minimise any impacts on the environment or local amenity should be selected, recognising that there are a range of factors which can impact on this, including land ownership and economic factors as well as environmental constraints. Impacts from vehicle movements can be reduced by ensuring that development such as hydraulic fracturing, involving large volumes of water, is located where water can be supplied by means such as pipeline or directly from a suitable local source, without the need for road transport. This can be further supported by encouraging re-use or recycling of water where practicable ~~and this is addressed~~ as required in Policy M18.

- 5.129 ~~5.132~~ The nature of hydrocarbon operations, particularly for unconventional hydrocarbons such as shale gas, means that development may be proposed incrementally within a given area, potentially over substantial periods of time. This is done to access new areas of gas or stimulate the flow of gas in a given location, therefore helping to ensure maximum recovery of the resource and an appropriate return on investment on items such as processing infrastructure. As a result, there may be commercial pressure to construct progressively more well pads and/or drill more wells on an existing pad, or re-fracture existing wells.
- 5.130 ~~5.133~~ At this early stage in commercial interest in ~~shale~~ gas in the Joint Plan area, there is ~~considerable~~ uncertainty about the potential scale and distribution of development that could come forward. Indications are that a typical well pad would have a surface area of some 2ha and that the density of well pads per PEDL area would depend on factors including surface constraints and geological factors. It would be influenced by the outcome of further initial exploration activity in the area. Each well pad could be expected to contain several individual well heads, from each of which a number of horizontally drilled wells would be drilled to access the shale gas resource, leading to the possibility of a substantial number of individual wells being drilled per pad. Such a scenario has the potential to lead to cumulative impacts as more development is proposed within an area, and ~~to~~ the potential for an incremental increase in impacts on the environment or local communities, including from traffic movements.
- 5.131 ~~5.134~~ If further exploration leads to commercial interest in the production of ~~shale~~ gas in the Joint Plan area, ~~it is vital that~~ a reasonable balance ~~is~~ will need to be found between developing the resource and protecting local communities and the environment. This is particularly so bearing in mind that PEDL areas are subject to a range of environmental constraints; ~~are places where people live, work or visit and that they make an important existing contribution to the overall character, economic well-being and perception of the area.~~
- ~~5.135~~ ~~Consequently, it will be very important to ensure that cumulative impacts that could arise through a proliferation of development are assessed and taken into account in considering proposals for hydrocarbon development. Whilst the current state of the evidence does not make it practicable to impose, at this stage in the development of the industry, a specific policy limit on the number of well pads or individual wells that may be acceptable in any particular area, or to specify a minimum separation distance that should be maintained between well pads, the policy sets out a range of criteria which will be used when assessing proposals which could give rise to cumulative impact.~~
- ~~5.136~~ ~~To give an indication at this stage, however, it is considered unlikely that proposals which would lead to a total development density, including operational and restored sites, of more than 10 well pads per 100km² PEDL area would be compatible with the~~

~~purpose of this element of the Policy¹⁶. Where an area being developed by an operator comprises a PEDL or licence block area of less, or more, than 100km² the density guideline will be applied pro rata. For PEDLs located within the Green Belt or where a relatively high concentration of other land use constraints exist, including significant access constraints, a lower density and/or number may be appropriate. As PEDL boundaries are based purely on the OS grid and do not reflect other considerations, the location of existing or planned development in adjacent PEDL areas will also be considered in assessing cumulative impact under this Policy.5.137~~

~~Where information is available as a result of exploration and/or appraisal activity in a PEDL area, operators should use this when putting forward specific proposals for production to set out, as far as practicable, how those proposals are expected to fit into an overall production scenario for the PEDL area, in terms of any further development that may be anticipated. Such information should refer to development that it is anticipated over the whole of the PEDL area and take account of the entire likely duration of development activity. This can help to ensure that a strategic approach is taken to the development of the area, which includes directing development, as far as practicable, towards the least sensitive locations.~~

- 5.132 ~~5.138~~ In assessing the potential for cumulative impact, account will be taken of the relationship between the proposed site and the location of other operational hydrocarbons development, the location of sites used for hydrocarbon development which are no longer operational, but which have not yet been restored to an agreed condition or ~~after use~~ after-use, and the location of other permitted, but as yet unimplemented hydrocarbons development. Where a formal Environmental Impact Assessment is required in respect of a specific proposal, the cumulative impacts of that proposal in combination with other development may also be required, depending on the circumstances of the individual case.
- 5.133 ~~5.139~~ ~~Accommodating any processing facilities and other supporting infrastructure, such as gas treatment, compressor or storage facilities, which may be needed to serve hydrocarbons development may be a challenge, given the predominantly rural nature of the Plan area and the scale and character of the development that could be involved.~~ There are likely to be benefits ~~therefore~~ in locating new hydrocarbon development where it ~~can~~ has the potential to use existing infrastructure, such as processing and distribution facilities, ~~effectively, thus reducing the need for new development across the Plan area.~~ This could help to reduce overall adverse impacts, including cumulative impacts. ~~Consideration should therefore be given when locating development, and at the design stage, to~~ During site identification and mapping stages, the potential ~~for the development to~~ use of suitable existing infrastructure, including infrastructure developed to serve activities carried out by other operators in adjacent PEDL areas, ~~and developers should seek to deliver this where practicable~~ be considered.
- 5.134 ~~5.140~~ Where new processing or other supporting infrastructure is required, consideration should be given to locating and designing this so that it would have the potential to serve multiple surface sites, potentially including those within the control of other operators. In support of this Policy the mineral planning authorities will encourage and facilitate discussion between PEDL holders or operators where necessary.
- 5.135 ~~5.141~~ Where co-location or sharing is not practicable the priority should be for new facilities to be located on brownfield sites, industrial or employment land or, where the use of agricultural land is necessary, on land of lower agricultural quality in preference

¹⁶ ~~Where a PEDL straddles the boundary of a National Park or an AONB then this guideline would be applied pro rata to the area of the PEDL falling outside the designated area.~~

to higher quality land¹⁷¹⁵ where practicable in order to ensure consistency with national policy and guidance.

5.136 ~~5.142~~ Whilst hydrocarbon development has the potential to bring local economic benefits to the area, such as through employment and positive impact on the local service economy, there is also the potential for adverse impact on elements of the existing economy. Tourism and recreation are an important part of the wider economy in Ryedale, Scarborough and Hambleton Districts, in the North York Moors National Park and in the City of York. The quality of the natural environment, the opportunities for outdoor recreation and the cultural and heritage assets in the area all play an important part in attracting visitors. Furthermore, many local businesses in the area, including within the agricultural and manufacturing sectors, benefit from the current perception that they operate in a high-quality rural environment.

5.137 ~~5.143~~ In some cases, individual sites or locations important to the visitor economy are already designated for protection in law or policy. However, many are not, and it will be important to ensure that, in determining proposals for hydrocarbons development in the area, consideration is given to the potential for adverse impact on the existing economy, including provision of appropriate mitigation measures where necessary.

5.138 ~~5.144~~ It is acknowledged that some of the adverse impacts of hydrocarbon development can be of relatively short duration, or intermittent in nature. Examples include the need for increased heavy vehicle movements during the installation and removal of drilling equipment, or during phases where any hydraulic fracturing is taking place, and the need for 'workovers' at existing well sites. Where such activity is proposed in locations where there could be a significant impact on the visitor economy, ~~proposals should~~ applications should include traffic management strategies to minimise or remove effects; this may include consideration of ~~whether the activity could be timed to avoid local school holiday periods.~~ seasonal variations in traffic movements

~~5.145 Unlike other forms of minerals development currently taking place or expected in the Plan area, some phases of hydrocarbons development, such as the drilling of a well, require 24-hour operations. Such operations have acute potential to impact on local communities adversely, for example due to noise and light intrusion. This potential exists over much of the area that is currently subject to PEDLs, which is rural in nature, often with relatively low background noise levels, and relatively dark night skies. It is therefore important that locations for development are selected which will ensure adequate separation distances from residential property and other sensitive receptors. This would also help to ensure adequate protection from other potential impacts, such as emissions to air or water. The adequacy of separation distances to properties and other receptors will need to be determined by the Mineral Planning Authority on a case-by-case basis but in all cases a rigorous assessment of potential impacts is required and a high standard of mitigation provided where necessary. In order to ensure that an appropriately high standard of protection can be maintained, and to help to provide clarity on the approach to be followed by the Mineral Planning Authorities, it is considered that a minimum horizontal separation distance of 500m should be maintained between the proposed development and occupied residential property or other sensitive receptors, unless there are exceptional circumstances. A 500m distance is considered to represent a reasonable distance taking into account the potential for a range of impacts including noise, vibration, light pollution, visual impact and other emissions, as well as the potential for some forms of hydrocarbon development to generate disturbance during night time periods, when there is potential for a greater degree of perceived impact. For the purpose of interpreting this approach, the term 'sensitive receptor' includes residential institutions such as residential care~~

¹⁷¹⁵ i.e. not on land Grades 1, 2 and 3a within the DEFRA agricultural land classification system

~~homes, children's homes, social services homes, hospitals and non-residential~~

~~institutions such as schools.~~

5.139 ~~5.146~~ In considering appropriate noise limits at sensitive receptors, operators will as a minimum be expected to meet the required limits set out in the NPPF and national Planning Practice Guidance, with the objective of ensuring a high standard of protection for local amenity. Site lighting should be designed and located to ensure minimum light spillage beyond the site boundary.

~~5.147—A further specific consideration associated with hydraulic fracturing is the possibility of induced seismicity. This has the potential to impact local amenity adversely and can be a significant concern to local communities. It will be important to ensure that development which could give rise to induced seismicity is located in areas of suitable geology. Proposals should therefore be supported by information which demonstrates the known location of any faults and an assessment of the potential for induced seismicity to occur as a result of the proposed development. Operators will be expected to apply the DBEIS traffic light system (see Fig.15) during their operations.~~

5.140 ~~5.148~~ The potential for emissions to water or air is also a key issue, ~~particularly for proposals involving hydrocarbon development.~~ Although these are primarily matters controlled by other regulators (see below), they may have implications for the use and development of land, and local communities may be concerned about the potential for adverse impacts on health, which is also a relevant consideration in planning. Where ~~development~~ proposals are ~~put~~brought forward ~~for development involving hydraulic fracturing, an~~, air quality issues should be assessed and details of any mitigation and monitoring plan techniques that are required should be included. ~~This should set out the measures to be taken to monitor air quality in the vicinity of the site, including the parameters to be monitored (to include parameters which relate to vehicle movements), the locations for monitoring and arrangements for reporting of results. A Health Impact Assessment in the application.~~

5.141 Potential health impacts should ~~also be~~ provided~~assessed~~ as part of an Environmental Impact Assessment, utilising any relevant data arising from baseline monitoring, including air quality monitoring and from other sources. This assessment should identify any likely significant health impacts, ~~any and necessary~~ mitigation ~~and also identify proposals for further monitoring.~~

5.142 ~~5.149~~ A range of other impacts associated with hydrocarbon development have the potential to cause impact on local amenity, ~~and further policy on this matter is contained in Policy D02, which will be applied as relevant when considering proposals for and will be considered against Policy D02 applicable to~~ all forms of minerals and waste development activity. ~~The~~Proposals will also be assessed against the requirements of Policy D11 relating to the sustainable design, construction and operation of development ~~will also need to be considered, in order~~ to help ensure that greenhouse gas~~gases, other~~ emissions, water consumption and generation of waste are minimised.

5.143 ~~5.150~~ Hydrocarbon development is subject to a range of other regulatory regimes which provide control over certain aspects of the operations. These are administered by ~~organisations~~other regulatory bodies such as the Environment Agency, the Health and Safety Executive and the Oil and Gas Authority. National planning guidance is clear that planning authorities should not seek to duplicate these controls, and should assume that other regulatory regimes will operate effectively. The mineral planning authorities will therefore seek to work effectively with other regulatory bodies to ensure that a robust approach is taken to protect the environment and local amenity.

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 11/47653051_291 recognising that issues relevant to the use and development of land are matters for the planning system.

5.144 ~~5.151~~ If significant environmental impacts are likely the minerals planning authority will require the applicant to undertake an Environmental Impact Assessment (EIA). ~~It is established in law that 'projects' cannot be sub-divided to avoid proper application of the regulations. If EIA is required it is expected that applicants will submit sufficiently detailed information to allow the impact of the whole development to be considered.~~

Policy M18: Other specific criteria applying to hydrocarbon development	

Policy Justification

5.145 ~~5.152~~ A significant issue with hydrocarbon development, particularly development involving hydraulic fracturing, is the need to manage the various forms of water that may be returned to the surface via a borehole. This can include water originally held within the rock (known as formation water) and, where hydraulic fracturing is involved, a proportion of the fracture fluid which returns to the surface via the borehole, known as flowback fluid. At production stage produced water arising as condensate in the gas can also occur. Water constituting waste and requiring management as waste can arise in substantial volumes and may contain Naturally Occurring Radioactive Materials (NORM) and other contaminants. It may be practicable to prepare waste water on site for re-use, through cleaning it, or subject it to other reprocessing so that it can be recycled. Relevant processes can include filtration, disinfection, oxidation, sterilisation, sedimentation and electrocoagulation. It may also be practicable to treat some waste at the site prior to any requirement for off-site disposal. The management and handling of waste is addressed through a Waste Management Plan, agreed with the Environment Agency as part of the permitting process.

~~5.153~~ Provided a high standard of environmental protection is maintained to prevent spillage that could result in contamination of surface or groundwater, on-site preparation for re-use, recycling or treatment is likely to represent the most sustainable option, minimising the need to transport waste and promoting increased re-use or recycling in line with waste policy objectives in the Joint Plan. Where this is not practicable or appropriate, then off-site treatment or disposal will be required. The need for appropriate management of waste water is an important consideration for these forms of development, given the potentially large volumes that could arise. Proposals which would generate waste water should therefore be supported by a waste water management plan, identifying the measures proposed, including any off-site arrangements, to ensure the safe and sustainable management and transport of the waste in order to minimise risks to local communities or the environment. Further information on the protection of ground and surface waters, including the requirements of the Water Framework Directive, is provided in Chapter 9 in the section on the Water Environment.

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5.146 5.154 Evidence suggests that there are a small number of existing facilities in and the Yorkshire and Humber area which may be able to receive such waste, and these are likely to represent the nearest appropriate installations for management of this form of waste. However, it is possible that if hydraulic fracturing activity develops on a significant scale, either inside or outside the Plan area, there will be a need for further development of suitable waste management infrastructure. At this stage it is not practicable to assess in any detail the likely scale or location of the capacity that could be required. However, the existing waste policies in Chapter 6 of the Joint Plan, particularly relevant elements of Policies W10 and W11, provide a basis for considering any applications for the development of local capacity if required.

~~5.155—Reinjection of water down existing wells, or new wells drilled specifically for this purpose, is sometimes proposed as a disposal method and is most likely to be appropriate for water which does not contain returned flowback fluid, given that such fluid poses a pollution risk. Whilst the Environment Agency has indicated that reinjection of flowback fluid is not necessarily prohibited, it currently takes the view that a precautionary approach should be applied and that this method of disposal does not represent the Best Available Technique. This part of Policy M18 will therefore need to be implemented taking into account the position of other relevant regulators, particularly the Environment Agency, at the time any planning application is being considered. Whilst in some circumstances reinjection of water may be an appropriate means of helping to manage waste without the need for off-site transport, it will be particularly important to ensure that it would only take place where a high standard of protection can be provided to ground and surface water resources. A specific issue sometimes associated with this form of development is the potential for re-injected water to act as a trigger for the activation of geological fault movements, potentially leading to induced seismic activity (earth tremors). Proposals for this form of development should therefore be supported with detailed information on the underlying geology of the site and an assessment of the potential for induced seismicity, together with any proposed mitigation.~~

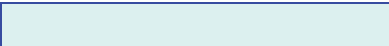

5.147 5.156 Hydrocarbon development can be of relatively short duration (i.e. several weeks or months) or, in the case of production of an oil or gas field, can last up to some 20 years. Whatever the duration of the development, it is important to ensure that ~~applicants provide~~ applications include an appropriate level of detail, at the outset, on how it is intended to ~~decommission and~~ restore the site to a beneficial ~~after use~~ after-use. This should include information about the dismantling of equipment and clearance of the site, ~~the decommissioning of any wells to prevent the risk of contamination of ground or surface waters or any emissions to air;~~ and how the site will be restored to an appropriate after use when operations cease, in accordance with relevant elements of Policy D10 'Reclamation and ~~After use~~ After-use', within a specified timescale. Other regulators also play a role in ensuring that decommissioned sites would not pose a risk as a result of pollution of ground or surface waters or emissions to air.

~~5.157—Unlike development of conventional gas resources, or indeed a range of other forms of minerals development, which are well-established industries, development involving hydraulic fracturing for shale gas, or development for some other forms of unconventional gas, would involve new and relatively unfamiliar processes in the Plan area and in the UK generally. As a result there is no well-established track record of the successful progression of development from the operational stage through to the final decommissioning and restoration of the site. The national Planning Practice Guidance states that a financial guarantee provided by the operator to cover restoration and aftercare costs can be justified where a novel approach or technique is to be used.~~

~~5.158 At the time of preparing this Joint Plan, unconventional hydrocarbon development, particularly for shale gas and other technologies such as Underground Coal Gasification, is unproven on a commercial scale in the UK. The relevant mineral planning authority may therefore, depending on the scale and nature of the development proposed and sensitivity of the location, require provision of an adequate financial guarantee. This is to ensure that there is appropriate financial provision in place, at the outset, to safeguard the satisfactory restoration and aftercare of the land in accordance with planning requirements. Whether this policy should be continued throughout the plan period will be considered at the first review of the Joint Plan.~~

Document comparison by Workshare Professional on 08 February 2018
21:28:51

Input:	
Document 1 ID	interwovenSite://EU-WORKSITE/London_11/47653051/1
Description	#47653051v1<London_11> - Draft Plan - justificatory wording as submitted for examination
Document 2 ID	interwovenSite://EU-WORKSITE/London_11/47653051/2
Description	#47653051v2<London_11> - Draft Plan - justificatory wording as proposed to be amended
Rendering set	Colour (no summary, no moves)

Legend:	
<u>Insertion</u>	
<u>Deletion</u>	
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Style change	
Format change	
<u>Moved deletion</u>	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	126
Deletions	130
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	256

APPENDIX 4

GOVERNMENT POLICY SUPPORT FOR ONSHORE HYDROCARBONS AND SHALE GAS

GOVERNMENT POLICY SUPPORT FOR ONSHORE HYDROCARBONS AND SHALE GAS

NPPF 142: *"Minerals are essential to support sustainable economic growth and our quality of life. It is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs. However, since minerals are a finite natural resource, and can only be worked where they are found, it is important to make best use of them to secure their long-term conservation."*

NPPF 143: *"In preparing Local Plans, local planning authorities should: identify and include policies for extraction of mineral resource of local and national importance in their area..."*

Minerals PPG 091: "What are conventional and unconventional hydrocarbons?" *Hydrocarbon extraction covers both conventional and unconventional hydrocarbons. Conventional hydrocarbons are oil and gas where the reservoir is sandstone or limestone. Unconventional hydrocarbons refers to oil and gas which comes from sources such as shale or coal seams which act as the reservoirs. As an emerging form of energy supply, there is a pressing need to establish – through exploratory drilling – whether or not there are sufficient recoverable quantities of unconventional hydrocarbons such as shale gas and coalbed methane present to facilitate economically viable full scale production."*

Minerals PPG 124: "Do mineral planning authorities need to assess demand for, or consider alternatives to oil and gas resources when determining planning applications?" *Mineral planning authorities should take account of government energy policy, which makes it clear that energy supplies should come from a variety of sources. This includes onshore oil and gas, as set out in the government's Annual Energy Statement published in October 2013."*

Written Ministerial Statement, Shale Gas and Oil, dated 16 September 2015: *"there is a national need to explore and develop our shale gas and oil resources in a safe and sustainable and timely way [...] This statement to Parliament should be taken into account in planning decisions and plan-making [...] Exploring and developing our shale gas and oil resources could potentially bring substantial benefits and help meet our objectives for secure energy supplies, economic growth and lower carbon emissions."*

Having access to clean, safe and secure supplies of natural gas for years to come is a key requirement if the UK is to successfully transition in the longer term to a low-carbon economy. The Government remains fully committed to the development and deployment of renewable technologies for heat and electricity generation and to driving up energy efficiency, but we need gas - the cleanest of all fossil fuels – to support our climate change target by providing flexibility while we do that and help us to reduce the use of high-carbon coal. Natural gas is absolutely vital to the economy. It provides around one third of our energy supply.[...]"

"The Government therefore considers that there is a clear need to seize the opportunity now to explore and test our shale potential. [...]"

"Reports by the Royal Society and Royal Academy of Engineering, Public Health England and others have considered a wide range of evidence on hydraulic fracturing in the UK context, and concluded that risks can be managed effectively if the industry follows best practice, enforced through regulation. The Government is confident we have the right protections in place now to explore shale safely (see Annex). Planning authorities can also have confidence that the regulators will enforce safety, environmental and seismic regulation effectively. But we are not complacent. We will continuously look to strengthen and improve regulation where necessary as the industry develops."

APPENDIX 5

**POLICIES RELEVANT TO THE IMPOSITION OF RESTRICTIONS ON MINERALS
DEVELOPMENT**

POLICIES RELEVANT TO THE IMPOSITION OF RESTRICTIONS ON MINERALS DEVELOPMENT

NPPF 143: *"In preparing Local Plans, local planning authorities should:*

- set out environmental criteria, in line with the policies in this Framework, against which planning applications will be assessed so as to ensure that permitted operations do not have unacceptable adverse impacts on the natural and historic environment or human health, including from noise, dust, visual intrusion, traffic, tip- and quarry-slope stability, differential settlement of quarry backfill, mining subsidence, increased flood risk, impacts on the flow and quantity of surface and groundwater and migration of contamination from the site; and take into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality"*

Minerals PPG 001: *"Planning for the supply of minerals has a number of special characteristics that are not present in other development:*

- minerals can only be worked (ie extracted) where they naturally occur, so location options for the economically viable and environmentally acceptable extraction of minerals may be limited. This means that it is necessary to consider protecting minerals from non-minerals development and has implications for the preparation of minerals plans and approving non-mineral development in defined mineral safeguarding areas;*
- working is a temporary use of land, although it often takes place over a long period of time;*
- working may have adverse and positive environmental effects, but some adverse effects can be effectively mitigated;"*

Minerals PPG 011: *"How and when are the details of any significant environmental impacts best addressed? Significant environmental impacts are best addressed through consideration of an Environmental Statement which will have to accompany nearly all planning applications for new mineral working. Statutory regulators must be consulted as part of the Environmental Impact Assessment process. This ensures that the mineral planning authority has sufficient information on all environmental matters at the time the planning decision is made."*

Minerals PPG 013: *"What are the environmental issues of minerals working that should be addressed by mineral planning authorities? The principal issues that mineral planning authorities should address, bearing in mind that not all issues will be relevant at every site to the same degree, include: noise associated with the operation; dust; air quality; lighting; visual impact on the local and wider landscape; landscape character; archaeological and heritage features (further guidance can be found under the Minerals and Historic Environment Forum's Practice Guide on mineral extraction and archaeology; traffic; risk of contamination to land; soil resources; geological structure; impact on best and most versatile agricultural land; blast vibration; flood risk; land stability/subsidence; internationally, nationally or locally designated wildlife sites, protected habitats and species, and ecological networks; impacts on nationally protected landscapes (National Parks, the Broads and Areas of Outstanding Natural Beauty); nationally protected geological and geo-morphological sites and features; site restoration and aftercare; surface and, in some cases, ground water issues; water abstraction."*

Minerals PPG 015: *"How should mineral operators seek to minimise the impact of development upon properties and the local environment in close proximity to mineral workings? Minerals operators should look to agree a programme of work with the mineral planning authority which takes into account, as far as is practicable, the potential impacts on the local community and local environment (including wildlife), the proximity to occupied properties, and legitimate operational considerations over the expected duration of operations."*

Minerals PPG 018: *"Are separation distances/buffer zones appropriate? Separation distances/buffer zones may be appropriate in specific circumstances where it is clear that, based on site specific assessments and other forms of mitigation measures (such as working scheme design and landscaping) a certain distance is required between the boundary of the minerals extraction area and occupied residential property.*

Any proposed separation distance should be established on a site-specific basis and should be effective,

properly justified, and reasonable. It should take into account:

- the nature of the mineral extraction activity;*
- the need to avoid undue sterilisation of mineral resources,*
- location and topography;*
- the characteristics of the various environmental effects likely to arise; and*
- the various mitigation measures that can be applied."*

Minerals PPG 106: "What are mineral planning authorities expected to include in their local plans on hydrocarbons? Where mineral planning authorities consider it is necessary to update their local plan and they are in a Petroleum Licence Area, they are expected to include the following:

- Petroleum Licence Areas on their policies maps;*
- Criteria-based policies for each of the exploration, appraisal and production phases of hydrocarbon extraction. These policies should set clear guidance and criteria for the location and assessment of hydrocarbon extraction within the Petroleum Licence Areas."*

Minerals PPG 125: "How should planning authorities seek to mitigate the environmental effects of mineral extraction? Mineral planning authorities should use appropriate planning conditions, having regard to the issues for which they have responsibility, to mitigate against any adverse environmental impact. Some examples of model conditions covering various areas that may be associated with exploration of hydrocarbons are attached at Annex C."

Minerals PPG 126: "Are separation distances or buffer zones acceptable? Above ground separation distances are acceptable in specific circumstances where it is clear that, based on site specific assessments and other forms of mitigation measures (such as working scheme design and landscaping) a certain distance is required between the boundary of the minerals site and the adjacent development."

APPENDIX 6

**NATIONAL RESTRICTIONS RELATING TO NATIONAL PARKS, AONBS, PROTECTED
GROUNDWATER SOURCE AREAS AND WORLD HERITAGE SITES**

NATIONAL RESTRICTIONS RELATING TO NATIONAL PARKS, AONBS, PROTECTED GROUNDWATER SOURCE AREAS AND WORLD HERITAGE SITES

All subsurface development is controlled and restricted by the Health and Safety Executive, the Environment Agency and the OGA. In addition, national planning policies of general application will apply to all applications for planning permission, regardless of their location. However, there are specific additional restrictions on sub-surface and surface development connected with the extraction of oil and gas in National Parks, Areas of Outstanding Natural Beauty ("**AONBs**"), World Heritage Sites ("**WHSs**") and Protected Groundwater Source Areas ("**PGSA**"). These restrictions are provided for in the Infrastructure Act 2015, the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2016 made under that Act, PPG 223, the NPPF and the WMS ("**National Restrictions**"). The tables below summarise the implications of these National Restrictions for different types of land.

LOCATIONAL RESTRICTIONS ON DRILLING AND ON CONVENTIONAL DEVELOPMENT

(A) Nature of activity	(B) Restrictions on surface development associated with the activity in column (A)	(C) Restrictions on sub-surface development of the type listed in column (A)
1. Drilling below 300m in connection with any type of hydrocarbon development	Not applicable	<p><u>Below any site (including National Parks, AONB, WHS and Protected Groundwater Source Areas)</u></p> <p>Infrastructure Act 2015 (s43 and s44): Use of land below 300m for drilling, installation of equipment, or any other oil and gas operations (excluding hydraulic fracturing of shale at the Specified Volumes ¹) is permitted by the Act, without requirement for land owner consent. There is a statutory right of access and use of such subsurface land provided by the Act.</p> <p>Above this level, such use is lawful but only with land owner consent.</p>
2. Conventional development (with or without any form of hydraulic fracturing)	<p>Not restricted by the Infrastructure Act 2015. However, general planning policy restrictions will apply – in particular:</p> <p><u>National Parks, AONB, WHS</u></p> <p>"NPPF 115: Great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas, and should be given great weight in National Parks and the Broads."</p> <p>"NPPF 116: Planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest. Consideration of such applications should include an assessment of:</p> <ul style="list-style-type: none"> - the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy; - the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and - any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated" <p>NPPF 132 and 133 - Similar policy protections dealing with proposals which "will lead to substantial harm to" WHS and other heritage assets such as listed buildings.</p> <p><u>Surface of other sites</u></p> <p>Relevant national planning policies will apply eg NPPF 118 in respect of SSSIs.</p>	<p>Above this level, such use is lawful but only with land owner consent.</p>

¹ See definition of "associated hydraulic fracturing" in the Infrastructure Act 2015

LOCATIONAL RESTRICTIONS ON UNCONVENTIONAL DEVELOPMENT

(A) Nature of activity	(B) Restrictions on surface development associated with the activity in column (A)	(c) Restrictions on sub-surface development of the type listed in column (A)
<p>3. Hydraulic fracturing of shale involving²:</p> <p>(i) more than 1,000 cubic metres of fluid at each stage, or expected stage, of the hydraulic fracturing, or</p> <p>(ii) more than 10,000 cubic metres of fluid in total.</p> <p>("the Specified Volumes")</p>	<p><u>Surface of National Parks, AONB, WHS and Protected Groundwater Source Areas</u></p> <p>WMS 16 Sept 2015: "Ministers also set out their clear commitment to ensure that hydraulic fracturing cannot be conducted from wells that are drilled at the surface of National Parks and other protected areas. This is not intended to impact on conventional drilling operations"</p> <p>This statement appears to supercede PPG 223 (dated July 2014) for hydraulic fracturing of volumes defined by the Infrastructure Act 2015.</p> <p><u>Surface of other sites</u></p> <p>Not restricted by the Infrastructure Act 2015. General national planning policies apply.</p>	<p><u>Below National Parks, AONB, WHS and Protected Groundwater Source Areas</u></p> <p>Infrastructure Act 2015 and Regulations: Hydraulic fracturing of shale at the Specified Volumes may only be carried out below 1,200m from the surface.</p> <p><u>Below other sites</u></p> <p>Infrastructure Act 2015 and Regulations: Hydraulic fracturing of shale at the Specified Volumes may only take place below 1,000m from the surface.</p>
<p>4. Any other form of unconventional hydrocarbon development apart from development falling within the Infrastructure Act definition in (3) above.</p> <p>Note that this will include hydraulic fracturing for conventional development, and also for unconventional development other than shale. It will also include hydraulic fracturing of shale at lower volumes.</p>	<p><u>Surface of National Parks, AONB, WHS</u></p> <p>PPG 223: "In considering applications for unconventional hydrocarbon development in National Parks [...] and AONB, minerals planning authorities should give great weight to conserving their landscape and scenic beauty. These areas have the highest status of protection in relation to landscape and scenic beauty, and the conservation of wildlife and cultural heritage in these areas should be given great weight"</p> <p>"Where applications represent major development planning permission should be refused in National Parks [...] and AONB except in exceptional circumstances and where it can be demonstrated they are in the public interest. The assessment that needs to be carried out, including any detrimental effect on the environment, such as the noise and traffic which may be associated with hydraulic fracturing, is set out in paragraph 116 of the National Policy Framework."</p> <p>"World Heritage Sites are heritage assets of the highest significance. Where a proposed development for unconventional hydrocarbons would lead to substantial harm to or loss of a World Heritage Site, mineral planning authorities should refuse consent unless wholly exceptional circumstances apply. The test to be considered by mineral planning authorities is set out in paragraph 133 of the National Planning Policy Framework."</p> <p>"Where appropriate, planning conditions can be imposed to ensure that development is made acceptable in planning terms before it can proceed"</p> <p><u>Surface of other sites</u></p> <p>Not restricted by the Infrastructure Act 2015. General national planning policies apply.</p>	<p><u>Below any site (including National Parks AONB, WHS and Protected Groundwater Source Areas)</u></p> <p>Infrastructure Act 2015 (s43 and s44): Use of land below 300m for drilling, installation of equipment, or any other oil and gas operations (excluding hydraulic fracturing of shale at the Specified Volumes) is permitted by the Act, without requirement for land owner consent. There is a statutory right of access and use of such subsurface land provided by the Act.</p> <p>Above this level, such use is lawful but only with land owner consent.</p>

² See the Infrastructure Act definition of "associated hydraulic fracturing"

APPENDIX 7

**DRAFT WEST SUSSEX JOINT MINERALS LOCAL PLAN SHOWING POST-HEARING MAIN
MODIFICATIONS PROPOSED BY THE MINERALS PLANNING AUTHORITIES IN TRACK
CHANGES AND THEIR REASONS FOR THOSE CHANGES**

6.7. Hydrocarbons

6.7.1. Oil and gas are hydrocarbon 'energy minerals' which supply energy to the power industry and heat homes, provide fuel for transport to carry goods and people, and raw materials to produce everyday items. Onshore oil and gas supplies contribute to domestic supplies of oil and gas and reduce reliance on imports, which contributes to the country's energy security.

6.7.2. There are two types of hydrocarbon resources known as 'conventional' and 'unconventional'. Conventional hydrocarbons are oil and gas where the reservoir is sandstone or limestone. Unconventional hydrocarbons refers to oil and gas which comes from sources such as shale or coal seams which act as the reservoirs. A report³² from the British Geological Survey (BGS) indicates that there is unlikely to be shale gas potential in the Weald Basin in which West Sussex is located. It also concludes that it may be that only limited amounts of shale in the area have the potential to produce oil in commercial quantities.

6.7.3. The relevant **strategic objective** for oil and gas is: *12: to protect the environment and local communities in West Sussex from unacceptable impacts of any proposal for oil and gas development, whilst recognising the national commitment to maintain and enhance energy security in the UK.*

6.7.4. The **strategy** for oil and gas is to make provision, subject to there being no unacceptable impact in West Sussex, and the use of hydraulic fracturing, within the definition used in the Infrastructures Act 2015 (and related amendments)³³, does not take place within, or have an unacceptable impact on, the South Downs National Park, Areas of Outstanding Natural Beauty, or other protected areas including protected groundwater zones. Major³⁴ oil and gas development not involving high volume hydraulic fracturing should only take place within the South Downs National Park or Areas of Outstanding Natural Beauty in exceptional circumstances and when it is in the public interest.

6.7.5. This approach meets the national policy requirement to make provision for oil and gas³⁵ development whilst also reflecting the Government commitment to 'ensure that hydraulic fracturing cannot be conducted from wells that are drilled at the surface of National Parks and other protected areas'.³⁶ Therefore, Policy M7a is the default policy for considering all development proposals associated with the extraction of both conventional and unconventional hydrocarbon resources, with the exception of those involved hydraulic fracturing, defined by the Infrastructure Act (2015) (and related amendments), which should be addressed by Policy M7b.

Other Environmental Consents

6.7.6. Planning permission is only one stage in the process of securing consent to drill. The Authorities must assume that the other regulatory bodies (the

WEST SUSSEX JOINT MINERALS LOCAL PLAN

Application draft with main modifications proposed by the Authorities (Jan 2018) in track changes
Comment boxes summarise the reasons given by the Authorities for the proposed main modifications

Environment Agency³⁷, Health and Safety Executive and Oil & Gas Authority operate as intended³⁸. However, consulting with the other regulatory bodies on planning applications helps to ensure that the Authorities can be satisfied that the issues they cover can and will be adequately addressed. National guidance is very clear that issues covered by other regulators including emissions, well and surface equipment integrity, processes controlling drilling and extraction, and health and safety should not be addressed by the planning process.

6.7.7. All applications will need to be considered against the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (or as subsequently revised).

M7a: Hydrocarbon³⁹ development not involving hydraulic fracturing⁴⁰

Exploration and Appraisal

(a) Proposals for exploration and appraisal for oil and gas, not involving hydraulic fracturing, including extensions* to existing sites will be permitted provided that:

(i) With regard to development proposals deemed to be major, the site is located outside the South Downs National Park, High Weald AONB or Chichester Harbour AONB unless it has been demonstrated that there are exceptional circumstances and that it is in the public interest, and in accordance with Policy M13;

(ii) the site selected ~~represents an acceptable environmental option in comparison to other deliverable alternative sites~~ ~~is the least sensitive, deliverable location~~ from which the target reservoir can be accessed, taking into account impacts from on-site activities and off-site activities including HGV movements;

(iii) any unacceptable impacts including (but not limited to) noise, dust, visual intrusion, transport, and lighting, on both the natural, ~~historic~~ and built environment and local community, including air quality and the water environment, can be minimised, and/or mitigated, to an acceptable level;

~~(iv) restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24 whether or not oil or gas is found,~~

(v) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground.

Production

Comment [HSF1]: Words "least sensitive" removed to ensure consistency with national policy

Comment [HSF2]: To avoid duplication

(b) Proposals for oil and gas production, not involving hydraulic fracturing, including extensions* to existing sites, will be permitted provided that:

(i) they accord with (a)(i-v) above;

(ii) no unacceptable impacts would arise from the transport, by vehicle or other means, of oil/gas, water, consumables and waste to or from the site;

~~**(iii) the restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24**~~

~~**(iv) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground.**~~

Comment [HSF3]: To avoid duplication

Comment [HSF4]: Already covered in (b)(i)

Activity beneath or proximate to designated areas

(c) Proposals for exploration, appraisal and production of oil and gas, not involving hydraulic fracturing, will be permitted underneath or in close proximity to designated areas, assets and habitats⁴¹, which demonstrate that special care will be taken to avoid harming **these areas and the special qualities of the South Downs National Park and/or setting and value of the Chichester Harbour AONB, High Weald AONB and other designated areas, assets and habitats.**

Comment [HSF5]: To make it clear that this clause applies to 'designated areas, assets and habitats' as well as the 'special qualities of the South Downs National park and/or the setting and intrinsic character and value of the Chichester Harbour and High Wealds AONBs

*** including extensions of time, physical extensions or extensions to operations within the existing site boundary. N.B. The suitability of **minor proposals for alterations to permitted operations will instead be considered against the Development Management policies.****

Comment [HSF6]: To clarify that proposals for minor alterations do not need to be considered against the criteria in Policy M7a

Policy M7b: Hydrocarbon development involving hydraulic fracturing

Exploration and Appraisal

(a) Proposals for exploration and appraisal for oil and gas, involving hydraulic fracturing, including extensions* to existing sites will be permitted provided that:

(i) any surface development is located outside the following areas (as shown on the policies map):

- i. South Downs National Park**
- ii. Chichester Harbour AONB**

iii. High Weald AONB

~~iv. Groundwater Source Protection Zone 1;~~

~~v. Sites of Special Scientific Interest (SSSI)~~

vi. Any other area given specific protection from hydraulic fracturing in legislation

(ii) the site selected **represents an acceptable environmental option in comparison to other deliverable alternative sites** ~~is the least sensitive, deliverable location~~ from which the target reservoir can be accessed, taking into account impacts from on-site activities and off-site activities including HGV movements;

(iii) any adverse impacts including (but not limited to) noise, dust, visual intrusion, transport, and lighting, on both the natural, **historic** and built environment and local community, including air quality and the water environment, can , and/or mitigated, to an acceptable level;

~~(iv) restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24 whether or not oil or gas is found.~~

(v) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground

Production

(b) Proposals for oil and gas production, involving hydraulic fracturing, including extensions* to existing sites, will be permitted provided that:

(i) they accord with (a)(i-v) above;

(ii) no unacceptable impacts would arise from the transport, by vehicle or other means, of oil/gas, water, consumables, and wastes to or from the site;

~~(iii) the restoration and aftercare of the site to a high quality standard would take place in accordance with Policy M24.~~

~~(iv) No unacceptable impacts would arise from the on-site storage or treatment of hazardous substances and/or contaminated fluids above or below ground.~~

Activity beneath or proximate to designated areas

(c) Proposals for exploration, appraisal and production of oil and gas, involving hydraulic fracturing, ~~will be permitted~~ underneath or in close proximity to designated areas, assets and habitats42, **will be**

Comment [HSF7]: Amended to ensure consistency with the Onshore Hydraulic Fracturing (Protected Areas) Regulations (2016) which does not exclude SSSIs and Groundwater Protection Zone 1

Comment [HSF8]: Words "least sensitive" removed to ensure consistency with national policy

Comment [HSF9]: To ensure consistent with legislation and to confirm that proposals will only be permitted provided that any unacceptable impacts on the historic environment can be minimised, and or mitigated to an acceptable level

Comment [HSF10]: To avoid duplication

Comment [HSF11]: To avoid duplication

Comment [HSF12]: Already covered in (b)(i)

~~permitted provided that there will be no unacceptable which demonstrate that special care will be taken to avoid harming to these areas and~~ the special qualities of the South Downs National Park and/or the setting and intrinsic character and value of the Chichester Harbour and High Weald AONBs. ~~Hydraulic fracturing will not be permitted above 1,200 metres underneath National Parks, Areas of Outstanding Natural Beauty, World Heritage Sites, and areas covered by Groundwater Source Protection Zone 1.~~

Groundwater

d) ~~There is a presumption against~~ **Proposals for hydrocarbon development involving hydraulic fracturing in Groundwater Source Protection Zones 1, 2 and 3 will not be permitted unless it is can be demonstrated that there will be no unacceptable impacts on groundwater. Hydraulic fracturing will not be permitted above 1,200 metres in Groundwater Protection Zone 1.**

* including physical extensions or extensions to operations within the existing site boundary. N.B. The suitability of **minor proposals for alterations to permitted operations will instead be considered against the Development Management policies.**

Comment [HSF13]: To make clear that this clause applies to 'designated areas, assets and habitats' as well as the 'special qualities of the South Downs National Park an/or the setting and intrinsic character and value of the Chichester Harbour, and High Weald AONBs

Comment [HSF14]: To ensure consistency with the Act and Regulations

Comment [HSF15]: To ensure consistency with the Act and Regulations

Comment [HSF16]: To clarify that proposals for minor alterations do not need to be considered against criteria in Policy M7b

Phases of oil and gas development

6.7.8. Oil and gas development has several stages, exploration, testing (appraisal) and production⁴³. Planning permission is required for each phase, as well as the relevant regulating licences and/or environmental permits from other agencies.

6.7.9. Decommissioning, restoration and aftercare takes place either after appraisal if the site is not suitable for production, or after production has ceased.

6.7.10. At any stage, only the application for that phase can be considered. There is no presumption that granting permission for one stage will lead to permission being granted for a subsequent phase.

Issues that need to be considered

6.7.11. When proposals for new or major redevelopment of existing sites come forward tThe applicant will be required to provide information about how the site has been selected including the extent of the geographical area from which the target reservoir could be reached and how alternative sites within this area have been considered. This is important to demonstrate that the site selected is the least sensitive location from which the target reservoir can be

WEST SUSSEX JOINT MINERALS LOCAL PLAN

Application draft with main modifications proposed by the Authorities (Jan 2018) in track changes
Comment boxes summarise the reasons given by the Authorities for the proposed main modifications

accessed and needs to take into account on-site and offsite activities, including HGV movements and routing. Account will also be given to whether sites are deliverable e.g. landowner agreement. For sites within the SDNP and AONB the exceptional circumstance and public interest and tests for major development, as set out in the NPPF (paragraph 116), would have to be met.

6.7.12. The site selection process should also demonstrate how regard has been had to designations of local, regional and national importance. In addition, sites of European importance for nature conservation and areas that support their ecological integrity must be considered. This is particularly important for European sites designated for migratory species such as some birds, or for wide-ranging species such as bats.

6.7.13. It should also be demonstrated that sites are located to minimise unacceptable impact on landscape and visual amenity, in accordance with Policy M13.

6.7.14. Other potential issues for oil and gas development, some of which may be of a greater magnitude for oil and gas operations involving high volume hydraulic fracturing, include transportation impacts (e.g. the transport of fluids by tanker) which are covered by Policy M20 and noise, and dust (e.g. from drilling or pumping), see Policy M18.

6.7.15. Lighting on sites should be kept to the minimum needed for security and safe working to avoid light pollution. Obtrusive lighting can be a source of annoyance to people, harmful to wildlife, undermine the enjoyment of the countryside or detract from the enjoyment of the dark night sky. This is particularly important within the South Downs National Park where the intrinsically dark landscape is an important quality of the SDNP. The South Downs National Park Authority has status (since May 2016) as an International Dark Night Skies Reserve.

6.7.16. The protection of water resources is an important issue, particularly within Groundwater Source Protection Zones. In assessing proposals the Authorities will consider the risk of flooding (Policy M19), surface, and in some cases groundwater issues and water abstraction (Policy M16).

6.7.17. Restoration of all oil and gas sites is a key site consideration and should take place at the earliest opportunity in accordance with Policy M24. It is important that soils should be retained and protected during construction for use in restoration, particularly valuable soils associated with forestry and ancient woodland.

6.7.18. Clause (c) of Policies M7a and M7b aims to ensure that development close to, or underneath, 'protected areas' does not cause harm to the special qualities or value of the area. For example, this includes considering the impact on the purposes and special qualities of the SDNP or the purposes of AONBs. It also includes consideration of the impact on Sites of Special Scientific Interest (which includes European sites) from proximal development, for example the impact of lighting on bats. It also seeks to ensure that there

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are no impacts from drilling underneath or next to protected groundwater zones.

6.7.19. As oil and gas development typically takes place over three stages (exploration, appraisal and production), it is possible to require restoration to be undertaken at the end of each stage. This is important as it may be decided to abandon the well following the exploration and appraisal stage, as well as after production has finished. Restoration and aftercare requirements will be set out in planning conditions and where necessary, through section 106 Agreements.

6.7.20. Community engagement is important for oil and gas development and applicants will be encouraged to engage with both the communities and the Authorities (through pre-application advice). For complex cases, the use of a planning performance agreement will be sought. There is also a 'Community Charter' which the oil and gas industry has committed to for communities that host unconventional oil and gas development.

Footnotes

³² gov.uk/government/uploads/system/uploads/attachment_data/file/313701/BGS_DECC_JurasWaldShale_study_2014_MAIN_REPORT.pdf

³³The definition used in the Infrastructure Act 2015 is "high volume hydraulic fracturing" means hydraulic fracturing of shale or strata encased in shale which -
(a) is carried out in connection with the use of the relevant well to search or bore for or get oil and gas, and
(b) involves, or is expected to involve, the injection of—
(i) more than 1,000 cubic metres of fluid at each stage, or expected stage, of the hydraulic fracturing, or(ii) more than 10,000 cubic metres of fluid in total.

³⁴ The term "major" reflects that used in para. 116 of the NPPF.

³⁵ National Planning Policy Framework: Annex 2

³⁶ Shale gas and oil policy statement DCLG (13 August 2015)

³⁷ The Environment Agency's updated guidance for the Onshore Oil & Gas Sector was published in August 2016
gov.uk/government/uploads/system/uploads/attachment_data/file/545924/LIT_10495.pdf

³⁸ For more information about the other regulatory regimes see the Planning Practice Guidance

³⁹ This includes conventional and unconventional hydrocarbons

⁴⁰ "hydraulic fracturing" in the context of this policy, means hydraulic fracturing of shale or strata encased in shale which—
(a) is carried out in connection with the use of the relevant well to search or bore for or get oil and gas, and
(b) involves, or is expected to involve, the injection of—
(i) more than 1,000 cubic metres of fluid at each stage, or expected stage, of the hydraulic fracturing, or
(ii) more than 10,000 cubic metres of fluid in total.

⁴¹ Designated areas and habitats include all areas and habitats designated and protected by international and national legislation including South Downs National Park, AONBs, SSSIs, SAC, SPAs, Ramsar sites, NNRs, heritage assets, sites identified under the Nature Conservation Review (NCR) or Geological Conservation Review (GCR), LNRs, **SNCHLWSs** and **RIGSLGS**, Ancient Woodland, Conservation Areas, Scheduled Monuments, Registered Parks and Gardens of Special Historic Interest.

⁴² Designated areas and habitats include all areas and habitats designated and protected by international and national legislation including South Downs National Park, AONBs, SSSIs, SAC, SPAs, Ramsar sites, NNRs, heritage assets, sites identified under the Nature Conservation Review (NCR) or Geological

Comment [HSF17]: Amended to ensure that the correct terminology is used for designated sites

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Conservation Review (GCR), LNRs, SNCIs and RIGS, Ancient Woodland, Conservation Areas, Scheduled Monuments, Registered Parks and Gardens of Special Historic Interest

8.3. Protected Landscape

8.3.1. The relevant strategic objective is 8: To conserve and enhance the landscape and townscape character of West Sussex and the special qualities of the South Downs National Park, and local distinctiveness of the High Weald AONB and Chichester Harbour AONB and their settings.

Policy M13: Protected Landscape

(a) Proposals for mineral development within protected landscapes (the South Downs National Park, the Chichester Harbour Area of Outstanding Natural Beauty, and the High Weald Area of Outstanding Natural Beauty will not be permitted unless:

- i. the site is allocated for that purpose in the adopted plan; or**
- ii. the proposal is for a small-scale development to meet local needs that can be accommodated without undermining the objectives of the designation; or**
- iii. the proposal is for major mineral development that accords with part (c) of this Policy.**

(b) Proposals for mineral development located outside protected landscapes will be permitted provided that they do not undermine the objectives of the designation.

(c) Proposals for major mineral development within protected landscapes will not be permitted unless there are exceptional circumstances and where it is in the public interest as informed by an assessment of:

- i. the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;**
- ii. the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for the mineral in some other way ; and**
- iii. any potential detrimental impact on the environment, landscape, and recreational opportunities, and the extent to which identified impacts can be satisfactorily mitigated.**

8.3.2. This policy sets out how proposals for mineral development will be expected to conserve and enhance the landscapes and townscapes of West Sussex. Landscape results from the way that different components of our

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environment, both natural and cultural, interact. Landscape character is the pattern that arises from particular combinations of different components.

8.3.3. More than half of West Sussex is included within a National Park and two Areas of Outstanding Natural Beauty (AONBs): the South Downs National Park and the High Weald and Chichester Harbour AONBs. National policy sets out that designated landscapes should be given the highest level of protection. More than half of West Sussex is included within a National Park and two Areas of Outstanding Natural Beauty (AONBs): the South Downs National Park and the High Weald and Chichester Harbour AONBs. Each designated area has a specific Management Plan⁵⁵ and objectives, which all minerals development within, or impacting on, protected landscapes, should take account of.

8.3.4. Due to their nature and size, mineral developments can have significant impacts on these designated landscapes, both during operations and following restoration. In order to maintain the unique landscape character, it is important to protect their natural beauty, distinctive character, and remote and tranquil nature from unnecessary harm wherever possible. Development proposals should therefore take suitable account of the SDNPA purposes and AONB Management Plan Objectives when considering the impact on protected landscapes

8.3.5. Paragraph 116 of the NPPF states that 'planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest.' The NPPF further states (paragraph 144) that when determining planning applications, local planning authorities should 'as far as is practical, provide for the maintenance of landbanks of nonenergy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage sites, Scheduled Monuments and Conservation Areas.'

8.3.6. Minerals can only be worked where they occur and there is a close correlation between the location of mineral resources and areas of high quality landscape and scenic beauty. Though they may be long-term, mineral workings are not permanent and their restoration can lead to opportunities for enhancement of the landscape. Therefore, unavoidable harm to the landscape should be mitigated as far as possible both during and after the mineral activity.

8.3.7. Within designated landscapes the test in paragraph 116 of the NPPF will need to be addressed. This will include provision of information about the national need for the mineral, as well as the benefits of permitting or refusing the application on the local economy. The expectation is that the search for alternatives outside the designated landscape should not be limited to the Plan area (or Licence Area for hydrocarbons) but should extend elsewhere within those areas identified nationally as having potential.

8.3.8. There is also a need for applicants to demonstrate whether the financial

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cost of developing outside the designated area is such that the development cannot take place elsewhere. The assessment should also consider the detrimental effect on the environment, landscape and recreational opportunities. Consideration of these impacts can be undertaken under each topic area but they must then be evaluated as part of the overall paragraph 116 assessment.

8.3.9. Small scale development includes any development that is not major development for the purposes of paragraph 116 of the NPPF. i.e. development which does not have the potential to cause an unacceptable impact by reason of its scale, character or nature on the natural beauty, wildlife, cultural heritage and recreational opportunities of the SDNP or AONBs. Examples of small scale developments include ancillary developments such as weighbridges, offices, haul roads and other minor amendments to existing planning permissions.

8.13. Restoration and Aftercare

8.13.1. The relevant strategic objectives are:

7: To protect, and where possible, enhance the health and amenity of residents, businesses and visitors.

8: To conserve and enhance the landscape and townscape character of West Sussex and the special qualities and local distinctiveness of the South Downs National Park, High Weald AONB and Chichester Harbour AONB and their settings.

9: To protect and, where possible, enhance the natural and historic environment and resources of West Sussex.

13: To ensure high quality mitigation and restoration to appropriate after uses.

Policy M24: Restoration and Aftercare

Proposals for mineral extraction and temporary minerals infrastructure development will be permitted provided that they are accompanied by comprehensive restoration and aftercare schemes that:

(a) ensure that land is restored at the earliest opportunity including, where appropriate, by phased, or progressive restoration;

(b) make provision for high quality and practicable restoration, management, and aftercare;

(c) are appropriate to their locations, maximising benefits taking into account local landscape character, the historic environment, biodiversity gain, priority habitat creation, and wider environmental objectives;

(d) where appropriate, re-instate, and/or re-route, and where possible, improve public rights of way and maximise public amenity benefits;

(e) provide for the removal of all buildings, machinery and plant when no longer required in connection with the principal use unless their removal conflicts with the agreed restoration scheme;

(f) ensure that soil resources are retained, conserved and handled appropriately during operations and restoration;

(g) preserve, maintain and where appropriate, manage, hydrogeological and hydrological conditions to prevent unacceptable impacts on groundwater conditions or increased flood risk.

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8.13.2. The purpose of policy M24 is to ensure that mineral sites are restored sustainably and to ensure a beneficial afteruse is achieved. Although mineral extraction is a temporary land use the nature of it can often involve permanent or long term physical change to land. It can also have a potentially significant impact upon the environment and local communities. An important way of managing such impacts is to ensure that sites are worked in a phased manner and restored at the earliest opportunity. Mineral working must not result in the dereliction of land after the operation has ceased. The successful restoration and aftercare of mineral sites should therefore be planned at the earliest opportunity, whilst offering an element of flexibility to allow changes in future circumstances.

8.13.3. The NPPF states that land worked for minerals should be reclaimed at the earliest opportunity, and progressively, taking account of aviation safety, and that high quality restoration and aftercare of mineral sites should take place, including for agriculture (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources), geodiversity, biodiversity, native woodland, the historic environment and recreation. It also states that bonds and other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances. Restoration schemes should be phased, where appropriate, to ensure that restoration is progressive and not left until the end of the site's life.

8.13.4. The Minerals section of the PPG states⁶¹ that minerals operators should submit restoration proposals as part of planning applications. The Authorities will expect restoration to be considered from the outset of the planning application process, preferably starting with preapplication advice. The PPG also states that the level of detail required ⁶¹ Planning Practice Guidance (Minerals section paragraph 39) West Sussex Joint Minerals Local Plan: Proposed Submission Draft (Regulation 19) January 2017 118 on restoration and aftercare will depend on the circumstances of each specific site including the expected duration of operations on the site. However, proposals must be sufficiently detailed to clearly demonstrate that the overall objectives of the scheme are practically achievable, and it would normally include:

- (i) an overall restoration strategy, identifying the proposed afteruse of the site;
- (ii) information about soil resources and hydrology, and how topsoil/subsoil/overburden/soil making materials are to be handled and stored whilst extraction is taking place;
- (iii) where the land is agricultural land, an assessment of the agricultural land classification grade;
- (iv) short term aftercare and long term management;
- (v) landscape strategy.

8.13.5. If mineral extraction is carried out on Best and Most Versatile agricultural land the outline restoration and aftercare strategy should show, where practicable, how the methods used in the restoration and aftercare enable the land to retain its longer term capability, even though the proposed after-use need not always be agriculture.

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8.13.6. Restoration schemes can comprise a number of different afteruses which are of benefit to the local and/or wider community. They generally fall into the following categories: - agriculture, forestry, amenity (including nature conservation, formal and informal recreation) or sometimes even commercial development (e.g. industrial and/or residential development). It is even possible for a single scheme to combine a number of these uses. ***[text proposed as MMs – not relevant to hydrocarbons]*** Restoration also provides opportunities for significant biodiversity and geodiversity gains, provided that the sites are properly planned from inception and implemented with restoration in mind. This can even make an important contribution towards the aims and objectives of Biodiversity Action Plans (BAPs) at a regional and local level. Schemes are of course determined by a number of factors including the underlying geology; topography; landscape character; location in relation to builtup areas; transport access; flood risk; bird strike risk (with open water) and agricultural value of land prior to extraction.

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8.13.7. Mineral site restoration provides an opportunity to recognise the wider benefits of ecosystem services, in accordance with paragraph 109 of the NPPF. An ecosystem services assessment can be used to compare alternative restoration scenarios in order to provide a scheme which provides the most 'value' in terms of ecosystem services. Defra have produced guidance on valuing ecosystem services which can be used to inform decision-taking on planning applications. West Sussex Joint Minerals Local Plan: Proposed Submission Draft (Regulation 19) January 2017 119

8.13.8. It is also important to consider the contribution that mineral site restoration can make towards green infrastructure provision. Applicants will be expected to show how the proposal contributes to green infrastructure provision.

8.13.9. Increasingly, inert material is being diverted away from landfill as it is subject to more re-use and recycling (such as is occurring with construction and demolition waste). This means that forms of low level (i.e. below original ground level) restoration are likely to be increasingly common. For sand and gravel quarries where the water table is high, it will often mean reclamation involving the creation of lakes. As well as providing opportunities (e.g. for habitat creation, geodiversity and recreation), this can create challenges in terms of landscape impact and changes to the setting of communities and heritage assets, loss of agricultural land, water table issues and potential conflict with airfield safeguarding requirements due to the attractiveness of lakes to flocking birds. Consideration should be given to the habitats that are a priority in a particular area and whether using inert waste as part of the restoration scheme would bring greater benefits than a low-level scheme.

8.13.10. Restoration and aftercare will be secured through the use of appropriate conditions and in some cases, planning obligations. Amendments to restoration schemes may need to be made where circumstances change over the time between permission being granted and the restoration being implemented. The responsibility for restoration and aftercare lies with the operator, or in the case of default, the landowner. Aftercare and maintenance

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of the restored land shall be for a period of not less than five years. Longer aftercare periods (e.g. 10 to 20 years) may be needed in some circumstances.

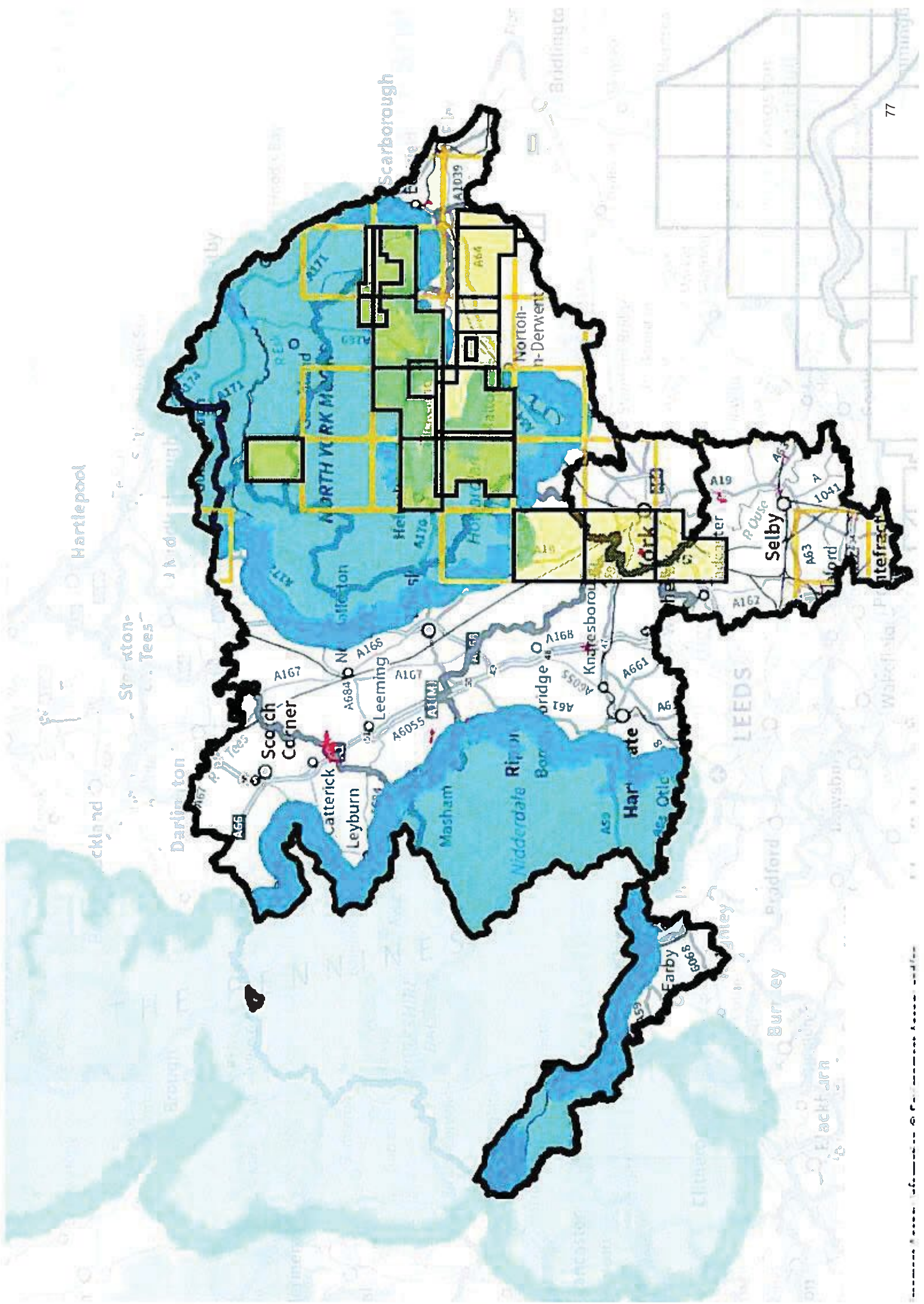
8.13.11. Whatever form of restoration is agreed, it will be necessary to ensure that appropriate safeguards and controls are in place to ensure the satisfactory long term afteruse of the land, and to plan for this as part of the process.

8.13.12. Some afteruses, such as formal recreation, may need to be resolved through the submission of separate planning applications. In all cases, it will be important that reclamation and afteruse proposals brought forward by the mineral operator are developed in consultation with local communities and other relevant stakeholders, to help ensure that proposals accommodate local opinion.

8.13.13. Restoration and aftercare schemes may require separate authorisation from the Environment Agency e.g. to control impact on surface and groundwaters.

APPENDIX 8

POLICIES MAP SHOWING NATIONAL PARKS, AONBS AND 3.5KM BUFFER ZONE



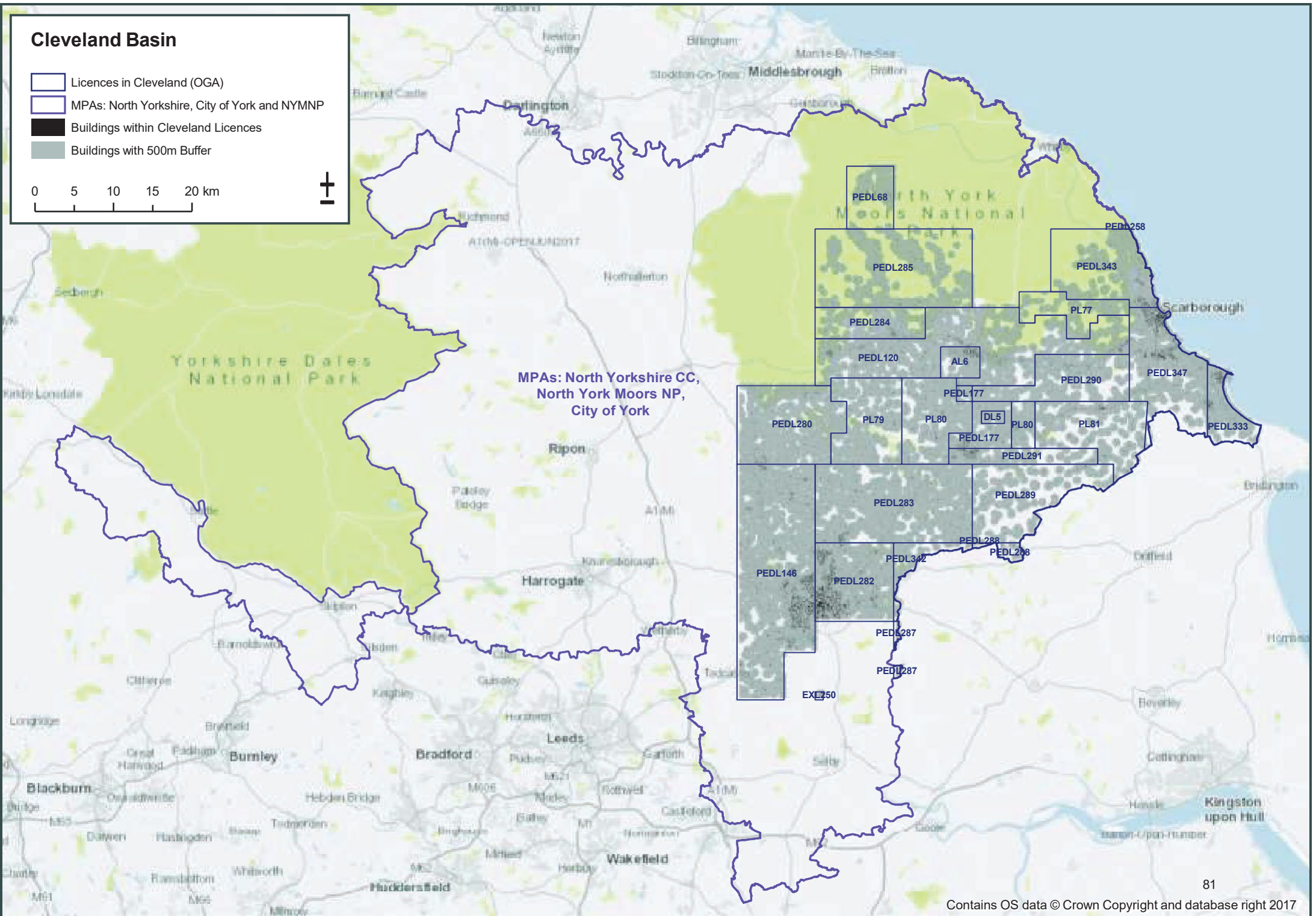
APPENDIX 9

**PLAN SHOWING THE EFFECT OF A 500M RESTRICTION AROUND RESIDENTIAL
PROPERTIES**

Cleveland Basin

- Licences in Cleveland (OGA)
- MPAs: North Yorkshire, City of York and NYMNP
- Buildings within Cleveland Licences
- Buildings with 500m Buffer

0 5 10 15 20 km



APPENDIX 10

POLICIES RELEVANT TO THE IMPOSITION OF FINANCIAL GUARANTEES

POLICIES RELEVANT TO THE IMPOSITION OF FINANCIAL GUARANTEES

RESTORATION AND AFTERCARE OF MINERALS SITES

"Minerals PPG 036: Who is responsible for restoration and aftercare of minerals sites?"

Responsibility for the restoration and aftercare of mineral sites, including financial responsibility, lies with the minerals operator and, in the case of default, with the landowner."

Minerals PPG 048: "When is a financial guarantee justified? A financial guarantee to cover restoration and aftercare costs will normally only be justified in exceptional cases. Such cases, include:

- *very long-term new projects where progressive reclamation is not practicable, such as an extremely large limestone quarry;*
- *where a novel approach or technique is to be used, but the minerals planning authority considers it is justifiable to give permission for the development;*
- *where there is reliable evidence of the likelihood of either financial or technical failure, but these concerns are not such as to justify refusal of permission.*

However, where an operator is contributing to an established mutual funding scheme, such as the Mineral Products Association Restoration Guarantee Fund or the British Aggregates Association Restoration Guarantee Fund, it should not be necessary for a minerals planning authority to seek a guarantee against possible financial failure, even in such exceptional circumstances."

PLANNING FOR HYDROCARBON EXTRACTION

Minerals PPG 127: "How will the mineral planning authority ensure that applicants will deliver sound restoration and aftercare proposals? Mineral planning authorities will ensure the proper restoration and aftercare of a site through imposition of suitable planning conditions and, where necessary, through section 106 Agreements. For hydrocarbon extraction sites where expected extraction is likely to last for a short period of time, it is appropriate for the mineral planning authority to impose a detailed set of planning conditions as part of the planning application. Also see guidance on Who is responsible for the restoration and aftercare of minerals sites?" [see Minerals PPG 036 above]

Annex C of the Minerals PPG "Model planning conditions for surface area"

Restoration and after care

"Within (time to be specified) months of the certification in writing by the local planning authority of the completion of restoration, as defined in this permission, a scheme and programme for the aftercare of the site shall be submitted to the local planning authority for approval in writing

The scheme and programme shall contain details of the following:

- a. *maintenance and management of the restored site to promote its agricultural, forestry or amenity use.*
- b. *weed control where necessary.*
- c. *measures to relieve compaction or improve drainage.*
- d. *an annual inspection to be undertaken in conjunction with representatives of the mineral planning authority to assess the aftercare works that are required in the following year.*

OR

within 3 months of the date of this permission a detailed restoration and year aftercare scheme shall be submitted for the written approval of the mineral planning authority. The scheme shall include details of the following:

- a. *treatment of the borehole;*
- b. *soil remediation and reinstatement measures along with details of proposed grass seed mixes;*

c. the removal of all building, plant, equipment, machinery, fencing, temporary surfacing materials from the Site and access track not required for the purpose of restoration and aftercare;

d. a 5 year aftercare programme.

The Site shall be restored in accordance with the approved restoration scheme and the Site thereafter managed in accordance with the approved 5 year aftercare programme. The aftercare period shall commence from the date that the local planning authority confirms that the restoration works have been carried out and fully implemented in accordance with approved details.

APPENDIX 11

**POLICIES RELEVANT TO THE SCOPE OF APPLICATIONS, CUMULATIVE ASSESSMENT
AND FUTURE DEVELOPMENT**

POLICIES RELEVANT TO THE SCOPE OF APPLICATIONS, CUMULATIVE IMPACTS AND FUTURE DEVELOPMENT

Minerals PPG 017: "How should mineral planning authorities assess the cumulative impact of minerals development?" Some parts of a mineral planning authority area may have been subjected to successive mineral development (such as aggregate extraction or surface coal mining) over a number of years. Mineral planning authorities should include appropriate policies in their minerals local plan, where appropriate, to ensure that the cumulative impact of a proposed mineral development on the community and the environment will be acceptable. The cumulative impact of mineral development is also capable of being a material consideration when determining individual planning applications."

Minerals PPG 094: "Can a single planning application cover more than one phase of extraction?" Applications are able to cover more than one phase of extraction. The operator will need to provide all relevant information, including environmental information, to support the full extent of the application."

Minerals PPG 102: "How will any additional sites for appraisal or production be determined?" Any additional sites, following exploration, will be selected by the operator taking account of what they have learnt or discovered through previous phases. In doing so, they should take also account of their ability to access the resource whilst seeking to minimise or avoid any adverse environmental and amenity issues."

Minerals PPG 118: "Can vertical and horizontal drilling, including hydraulic fracturing, be included in one application for exploratory drilling?" As far as it is practical to do so, any application for exploratory drilling should cover as much of the exploratory activity as possible, including the likely number of wellheads and extent of drilling, to avoid further planning applications at a later date."

Minerals PPG 120: Should mineral planning authorities take account of the environmental effects of the production phase of hydrocarbon extraction at the exploration phase? Individual applications for the exploratory phase should be considered on their own merits. They should not take account of hypothetical future activities for which consent has not yet been sought, since the further appraisal and production phases will be the subject of separate planning applications and assessments. When determining applications for subsequent phases, the fact that exploratory drilling has taken place on a particular site is likely to be material in determining the suitability of continuing to use that site only insofar as it establishes the presence of hydrocarbon resources."

APPENDIX 12

**POLICIES REFERRING TO THE RELATIONSHIP BETWEEN PLANNING AUTHORITIES AND
MATTERS WITHIN THE REMIT OF OTHER REGULATORS**

POLICIES REFERRING TO THE RELATIONSHIP BETWEEN PLANNING AUTHORITIES AND MATTERS WITHIN THE REMIT OF OTHER REGULATORS

Minerals PPG 012: "What is the relationship between planning and other regulatory regimes?

The planning and other regulatory regimes are separate but complementary. The planning system controls the development and use of land in the public interest and, as stated in paragraphs 120 and 122 of the National Planning Policy Framework, this includes ensuring that new development is appropriate for its location – taking account of the effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution. In doing so the focus of the planning system should be on whether the development itself is an acceptable use of the land, and the impacts of those uses, rather than any control processes, health and safety issues or emissions themselves where these are subject to approval under regimes. Mineral planning authorities should assume that these non-planning regimes will operate effectively."

Minerals PPG 112: "What hydrocarbon issues can mineral planning authorities leave to other regulatory regimes? *Some issues may be covered by other regulatory regimes but may be relevant to mineral planning authorities in specific circumstances. For example, the Environment Agency has responsibility for ensuring that risk to groundwater is appropriately identified and mitigated. Where an Environmental Statement is required, mineral planning authorities can and do play a role in preventing pollution of the water environment from hydrocarbon extraction, principally through controlling the methods of site construction and operation, robustness of storage facilities, and in tackling surface water drainage issues.*

There exist a number of issues which are covered by other regulatory regimes and mineral planning authorities should assume that these regimes will operate effectively. Whilst these issues may be put before mineral planning authorities, they should not need to carry out their own assessment as they can rely on the assessment of other regulatory bodies. However, before granting planning permission they will need to be satisfied that these issues can or will be adequately addressed by taking the advice from the relevant regulatory body:

- *Mitigation of seismic risks –the Department of Energy and Climate Change is responsible for controls, usually through the licence consent regime, to mitigate seismic risks. Seismic assessment of the geology of the area to establish the geological conditions, risk of seismic activity and mitigation measures to put in place is required by the Department of Energy and Climate Change for all hydraulic fracturing processes;*
- *Well design and construction – the Health and Safety Executive are responsible for enforcement of legislation concerning well design and construction. Before design and construction operators must assess and take account of the geological strata, and fluids within them, as well as any hazards that the strata may contain;*
- *Well integrity during operation – under health and safety legislation the integrity of the well is subject to examination by independent qualified experts throughout its operation, from design through construction and until final plugging at the end of operation;*
- *Operation of surface equipment on the well pad – whilst planning conditions may be imposed to prevent run-off of any liquid from the pad, and to control any impact on local amenity (such as noise), the actual operation of the site's equipment should not be of concern to mineral planning authorities as these are controlled by the Environment Agency and the Health and Safety Executive;*
- *Mining waste – the Environment Agency is responsible for ensuring that extractive wastes do not harm human health and the environment. An environmental permit is required for phases of hydrocarbon extraction and this will require the operator to produce and implement a waste management plan;*
- *Chemical content of hydraulic fracturing fluid – this is covered by the environmental permit as operators are obliged to inform the Environment Agency of all chemicals that they may use as*

part of any hydraulic fracturing process;

- *Flaring or venting of any gas produced as part of the exploratory phase will be subject to Department of Energy and Climate Change controls and will be regulated by the Environment Agency. Mineral planning authorities will, however, need to consider how issues of noise and visual impact will be addressed;*
- *Final off-site disposal of water – Water that comes back to the surface following hydraulic fracturing may contain naturally occurring radioactive materials. Whilst storage on-site and the traffic impact of any movement of water is of clear interest to local authorities, it is the responsibility of the Environment Agency to ensure that the final treatment/disposal at suitable water treatment facilities is acceptable*
- *Well decommissioning/abandonment – following exploration, the well is likely to be suspended and abandoned for a period of time. Health and Safety Legislation requires its design and construction that, so far as reasonably practicable, there is no unplanned escape of fluids from it. The mineral planning authority is responsible for ensuring the wells are abandoned and the site is restored."*

