

Larkfield  
South Lane  
Thornton Dale  
Pickering  
North Yorkshire  
YO18 7QU

2 September 2011

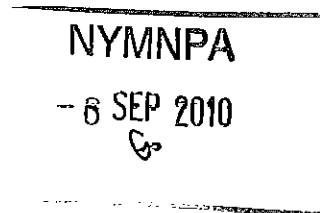
Chief Planning Officer,  
North York Moors National Park.

Dear Sir,

Objection to Planning Application NY/2010/0159/ENV  
Gas Processing Plant – Hurrell Lane, Thornton-le-Dale.

I enclose a copy of my objection to the above planning application for your consideration, as the development proposed is adjacent to the National Park and will have a serious impact on the Park's amenities and character.

Yours sincerely,



**Larkfield  
South Lane  
Thornton -le-Dale  
North Yorkshire  
YO18 7QU**

**2 September 2011**

**Mr.M.Convery,  
Senior Development Control Officer,  
North Yorkshire County Council,  
County Hall,  
Northallerton.  
DL7 8AH**

**Dear Sir,**

**Objection to  
Planning Application NY/2010/0159/ENV  
Gas Processing Plant – Hurrell Lane**

**1. Contribution to future national fuel supplies.**

Whilst the proposed plant will make some contribution to national fuel supplies it is difficult to assess how large or small the contribution will be. Moorland Energy has a licence to explore for gas throughout North Yorkshire and intends to process its finds on one site. Surely there must be other sites where industrial development would be more appropriate. This proposed development is on agricultural land in an attractive valley beside a tourist route, and in a village in the North Yorkshire National Park which relies upon its reputation for attractiveness.

**2. Creation of local jobs and training for apprentices.**

I have read the report commissioned by Moorland Energy from Bowles Green. As a resident in the village who has spent the last twenty years working in education and careers locally, I think it is very difficult to balance the job gains with the losses. Most jobs and apprenticeships will be filled from outside the local area as outside specialists are brought in. Most jobs in the area are connected in some way to tourism and the proposed development is likely to threaten such jobs, with job losses likely to be in excess of the 15 or so created by the plant.

**3. Local economy.**

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**- 6 SEP 2010**

The local economy is based on tourism and agriculture and there is the risk of substantial losses if the plan is implemented. On the front page of their *newsletter* Issue 2, Moorland Energy quotes the Bowles Green report as saying, 'With the exception of a small number of businesses located on Hurrell Lane and at the eastern extremity of Thornton-le-Dale, the proposed development is unlikely to have an impact on tourism.' I can immediately think of ten such businesses within this small location, and I am acutely aware of the loss of jobs and income which would result from their failure.

Visitors come to Thornton-le-Dale, a village within the North Moors National Park, for its beauty, peace and traditional character. Those who stay here for a holiday mostly come to walk in the surrounding area. They will not merely be turned away from a small number of guest houses near the site and the knock-on effect on businesses within the area should not be underestimated.

The figure of £10m, mentioned as being a contribution to the local economy over the next twenty years, fails to take into account the lost revenue from tourism, as well as deductions from the employees' pay such as income tax. In the short term it is unlikely that much money will be spent in the local area by the construction workers, who usually are accommodated in caravans on site and continue to pay mortgages and expenses at their permanent homes elsewhere in the country. Any possible gains are greatly outweighed by the potential losses.

**Finally, I would question Moorland Energy's ability to guarantee job and income generation over a twenty year period. Their chief financial backer, Epi-V, a firm of venture capitalists, states in its online report of Epi-V's potential value: 'Moorland's strategy is to develop low risk appraisal prospects such as at Wykeham to ensure that, at completion, we can provide a valuable asset with a strong cash flow base to potential acquirers.'** Does this not suggest an intention to sell the site on?

#### **4. Ecological impact.**

Hurrell Lane, the track beyond Charity Farm, South Back Lane and the footpaths leading back through the bluebell wood to Maltongate are established walks in the village, used regularly by local residents. We are all aware of the barns owls, crested newts, deer, foxes, bats and badgers living in the adjoining fields, including those of the proposed site. At night I hear the calls of barn owls, tawny owls and little owls from the valley, which is south of my house. The hedgerows in Hurrell Lane are old and mixed and the banks are full of wild flowers of all seasons.

**I am afraid I can only feel angry about Mr. Erasmus' remarks in the latest *newsupdate* about developing 'a wildlife conservation area on the site,' which 'will provide a valuable amenity for the community on land which is currently used for growing crops.' The site already is an extremely valuable amenity to those of us who value wildlife conservation. It is wrong to suggest that the experience of visiting this site will in any way be enhanced by the**

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**- 6 SEP 2010**

**addition of an industrial site with all its attendant noise, light and fifty foot high chimney. It will remove an amenity rather than providing one.**

**5. Visual effect.**

Whatever assurances are made about screening the site will always be visible. The A170, a tourist route to the coast, looks down to the south across the beautiful glacial valley where the development is proposed. A fifty foot high chimney and attendant buildings cannot be screened from this angle. The site will also be visible from the other side of the valley as it meets the wolds.

In May I went to Guildford and met Mr Erasmus at his office. When I mentioned the site's visibility from the A170, pointing out that Charity Farm was clearly seen, his response was that Charity Farm is already 'a blot on the landscape.' Those of us who live in the countryside do not regard farms in that light.

**6. Increased traffic.**

The A170 is a busy road which carries a lot of traffic, especially in summer. There have been fatal accidents in and near Wilton in recent memory at the point where the new access road is proposed.

Moorland Energy has not stated exactly how many heavy lorries will leave the proposed site every day carrying chemical waste, nor given their destination. However, all such lorries will have to travel through Thornton-le-Dale to gain access to the A64 or to make their way to Teeside. Again, Thornton-le-Dale is a village within the National Park and a key tourist location in the village is the bridge crossing the beck from which visitors can view the thatched cottage. The bridge, over which all traffic has to pass, is narrow, on a blind spot in the road, and has only a narrow pavement on one side. Lorries will be a real hazard, as well as, of course, detracting from the character of the village as a tourist attraction.

**7. Noise and light pollution.**

**I cannot emphasise enough how there is currently NO noise in this part of the village.** When I met Mr Erasmus and expressed concern about noise he said that the noise would be like that of farm machinery, and anyway we all live with background noise. Well, we don't. There is no man-made noise. I can hear the barn owls from the proposed site at night from my home. I can hear frogs, woodpeckers, all sorts of bird song. If a dog barks at the other side of the valley I can hear it. Sound travels easily across the valley.

When the farm in South Lane did use machinery it seemed very noisy against the usual complete quiet, and the same is true if a neighbour uses a saw or grass cutter. This week I have been aware of harvesters working in fields in the valley. But these are occasional noises and part of country life. What is being proposed will produce noise twenty four hours a day, 365 days a year.

With regard to light pollution, again we live in an area in which the nights are totally dark. We can see the stars quite clearly, including shooting stars. We watched Haley's Comet from the doorstep when it was last in view.

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**- 6 SEP 2010**

We moved to our home 22 years ago specifically because the silence and darkness were so lovely and so difficult to find elsewhere. In doing so we chose to give up the advantages our previous life in Oxford had to offer in terms of lifestyle and jobs. If possible we should protect such choices for future generations. Once something beautiful is destroyed it is gone for ever. After all, we do live in a national park, with all the restrictions that imposes on development.

8. **Safety.**

We have not yet been informed about safety procedures for the village, but there must be serious cause for concern bearing in mind the close proximity of residential properties and the accident record of the gas processing industry. My own gate is 500 metres from the proposed site. I understand that the hydrogen sulphide gas produced is dangerous even in small concentrations.

9. **Impact on Tourism.**

I have mentioned the impact on tourism throughout. Visitors are likely to be discouraged by the changed character of the village once it includes a large industrial site. The proposed development will have a detrimental effect on appearance, traffic, noise and wildlife habitats, and there is likely to be an offensive smell.

A lot of money is spent both nationally and locally in promoting tourism in this area and tourism forms the basis of the local economy. It would be reckless and irresponsible not to oppose such a potential threat to the jobs, economy and character of the local area as the one presented by the proposed gas processing plant.

Yours sincerely,

Susan Harris

cc. Chief Planning Officer, North York Moors National Park.  
Planning Department, Ryedale District Council.

NYMNPA

- 6 SEP 2010

**LARKFIELD  
SOUTH LANE  
THORNTON DALE  
PICKERING  
NORTH YORKSHIRE  
YO18 7QU**

Mr M Convery  
Senior Development Control Officer  
North Yorkshire County Council  
County Hall  
Northallerton  
DL7 8AH

NYMNP

09 SEP 2010

Thursday, 02 September 2010

**NY/2010/0159/ENV**

Dear Sir

I hereby submit my formal objection to the planning application submitted by Moorland Energy Ltd ("Moorland") for a Gas Processing Plant ("GPP") on the following grounds:

**1. Contravention of planning**

As recently as January 2010, the Planning Inspectorate decided against an application for planning on the basis of "the effect of the proposal on the character and appearance of the area".

The application by Moorland is still within the same area i.e. Thornton Dale Parish and consequently the Inspectorate decision should still stand.

For reference purposes I enclose a copy of the relevant decision.

**2. Wrong Location**

Moorland should not be allowed to build an industrial plant in an area of outstanding natural beauty. Thornton le Dale has won a number of awards for the prettiest village in a beautiful rural area. As recently as this summer Thornton Dale has been described in June's Yorkshire Living magazine as – "a village which encapsulates the idyllic timelessness of England's green and pleasant land.

This gas plant will produce noise and smell, be a significant environmental threat and damage tourism on which the area depends. It may be desirable to extract the gas for the purposes of providing energy, but the location proposed is wrong.

### 3. Wrong purpose

Moorland was formed with the objective of exploring for gas within a licensed area it bought from Warwick Energy, and if successful, to use the gas for power generation. The resultant electricity would be fed into the national grid. To enable them to do this they purchased generating sets from Warwick Energy that had become surplus to their requirements, i.e. Natural gas had run out at their site at Caythorpe nr Bridlington.

In their 2008 Annual Report Moorland stated that the drilling at Ebberston had been successful but that the gas flow being recorded was in excess of the capacity of the gensets. **This is untrue.** As a director of one of the UKs leading generating set manufacturers – Dale Electric. I can confirm that the gas supply could be regulated to suit the capacity of the gensets.

What changed the mind of Moorland was the change in financial incentives from the Government such that a better financial return would result if their policy was changed. Instead of producing electricity, they now produce gas.

There is no reason why they should not go back to their original concept and build a generating plant at Givendale Head, outside the National Park boundary, and use the generating sets that they have in stock (bought from Warwick Energy as well as the licence).

Moorland needs to examine alternative sites and purpose much more thoroughly.

### 4. Funding

Moorland is being bankrolled by a venture capital business called Epi-V. Mr John Hutchinson, a partner in the business who is also a director of Moorland Energy states on their web site and promotional literature that:

**“Moorland’s strategy is to develop low risk appraisal prospects such as Wykeham to ensure that at completion, we can provide a valuable asset with a strong cash flow base to potential acquirers”**

This hardly seems to fit within the commitments that Moorland is making to the various authorities of 20 year returns, provision of jobs etc, just to secure planning permission.

Moorland is insufficiently capitalised to develop a gas plant with cash needs of in excess of £50m. It is currently capitalised at a ludicrously small figure of £12,000,

backed up with loans from Lloyds Bank (presumably guaranteed by Epi-V). There is no way Lloyds will be waiting 20 years for their money.

This can only be undertaken by Moorland selling on the asset – as said by their director – Mr John Hutchinson.

## **5. Pollution**

The process required at the GPP is hazardous, noisy, smelly and a significant intrusion on a quiet, tranquil rural area. This is a view supported by the Campaign to Protect Rural England (CPRE), I in turn support their arguments as submitted by them to the NYCC.

### **a. Noise**

I currently live in a location where we have NO noise. Mr Erasmus, the Managing Director of Moorland admits that the plant will produce noise, but this will be no more than agricultural machinery. This may be so but that machinery does not happen 24/7, particularly during the hours of darkness. I am very, very, VERY concerned at the prospects of noise permeating my location, especially when I have moved here to live in a peaceful rural environment.

### **b. Smell**

The process of treating sour gas is to remove the hydrogen sulphide contained within. Moorland has admitted that there will be smells and the smells will be prevalent every time the gas pressure rises to the extent that, for safety reasons “flaring” takes place.

The smells produced will be of rotten eggs and rotten cabbage. These smells will drift over the whole village and due to the local topography are likely to be retained. I did not come to Thornton Dale for this to happen and neither will future tourists

Hydrogen Sulphide is a health risk. During the first world war it was used to gas troops!!!

### **c. Waste**

Very little is included within the planning application with regard to waste production. More information needs to be provided such as where will the condensate and waste water be disposed, how is the nitrogen used in the process disposed. How much will require to be disposed of. Others more technically capable will have other questions to answer.



## **6. Safety and Security**

The planning application gives very little priority to security and safety

## **7. Tourism**

Of all the likely impacts of the GPP, this is the most threatening and the one most likely to damage Thornton le Dale as a whole. The effect of the GPP on tourism is not easy to define but as sure as rotten eggs are rotten eggs it will have an impact.

In simple terms, NYCC spend millions of pounds to attract tourism to North Yorkshire. They are not alone – Yorkshire Tourist Board, Welcome to Yorkshire, North Yorkshire Moors Railway (NYMR) etc also spend £millions. An example of this is that in 2007 NYMR attracted visitors spending £36.5m in the region. Surely a small proportion of this would be spent in Thornton Dale – 5% would be almost £2m.

Would they go to Thornton Dale to be greeted by a gas processing plant?

How can NYCC approve a threat to tourism in its area, such as provided by this planning application?

## **8. Traffic**

The A170 is a busy road which carries a lot of traffic, especially in summer. There have been fatal accidents in and near Wilton at the point where the new access road is proposed in recent memory.

The disruption during construction will be significant. The extra traffic will make a busy road even busier, making it more dangerous.

Moorland has not stated exactly how many heavy lorries will leave the proposed site every day carrying chemical waste, nor given their destination. However, all such lorries will have to travel through Thornton-le-Dale to gain access to the A64 or to make their way to Teeside.. The bridge, over which all traffic has to pass, is narrow, on a blind spot in the road and has only a narrow pavement on one side. Lorries will be a real hazard, as well as, of course, detracting from the character of the village as a tourist attraction.

## **9. Planning Precedent**

Moorlands planning application to build a gas processing plant threatens to become a precedent on which future development may occur. This must not happen for the many reasons stated earlier

Please do not let Moorland ruin my home, village and environment

Yours faithfully

Christopher J Coole

cc. Chief Planning Officer, North York Moor National Park ✓  
cc Chief Planning Officer, Ryedale District Council

NYMNPA  
03 SEP 2010

PROFESSOR GORDON H BELL

22<sup>nd</sup> November 2010

Dear Chris France,

**RE: PLANNING APPLICATION NYM/2010/0262/EIA**

Please find a Formal Commentary enclosed on documentation arising from the above Planning Application. Its purpose is to support due diligence in respect of specific areas namely;

- **Health & Safety**
- **Alternative Sites**
- **Tourism and Economic Benefits**

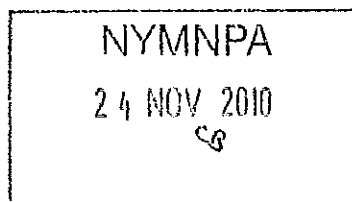
Certain tests of the model proposed for a Sour Gas Processing Plant and Associated Works are outlined concerning;

- **Credible Worst Case Scenarios**
- **Risk Assessments**
- **Cost vs Benefit Analysis**
- **Independent Evaluation of Risk**

I would be grateful if you will acknowledge receipt of this Formal Commentary

Yours sincerely,

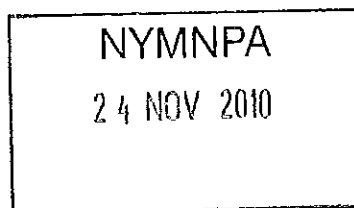
Prof G H Bell



Chris France, Director of Planning  
North York Moors National Park  
The Old Vicarage  
HELMSLEY  
York  
YO62 5BP

**Issues for Inquiry**  
*Ryedale Sour Gas Project*

**Commentary in Response to Planning Application**  
**NYM/2010/0262/EIA**



**Prof. G H Bell.**  
**Thornton-Le-Dale.**  
**November 2010**

## ABSTRACT

This commentary reviews three main issues arising from Moorland Energy Ltd proposals regarding **health and safety, alternative sites, tourism and economic benefits**. Its purpose is to urge exceptional standards of due diligence in exceptional circumstances.

The Applicant's proposals are to construct a novel and untested sour gas refinery in close proximity to 3,000 people in a nationally acclaimed environment.

The level of detail supplied falls short of what may reasonably be required to support an independent and informed decision. This is not to say that the Applicant's proposals are generally unacceptable, but that their current 'off plan' form offers explanations with restricted justification. It is not therefore clear as to the unalterable necessity of imposing unspecified risks on several hundred households and c.137, 000 leisure visitors annually, and to do so with immediate effect, using one preferred method, in a uniquely favoured location.

It should be noted that the developer's ambitions are being pursued in spite of externally validated objections from 81.9% of residents and in excess of 13,000 signatories to a petition declaring opposition to the Applicant's proposals.

### Health and Safety (Paras 1-0 – 1.25)

The Health and Safety Executive has confirmed that the proposed gas processing facility has no counterpart in the UK. It is therefore experimental.

The Applicant's "Outline Safety Report" offers a generalised description of commonsense intentions. It fails to specify the scope of exposure to risk, the type of risk sour gas processing poses, or the consequences of regulatory regime failure. It is proposed that such detail will be provided as a condition of planning permission being granted. Conditionality of this sort is wholly unacceptable in the exceptional circumstances of this case for it denies decision makers a fully informed basis from which secure judgements about public safety can be made.

Such additional risks are themselves unsafe and should be corrected by means of an evidence-based evaluation of "worst case scenarios" comprising (i) a credible "*most likely worst case*" scenario and (ii) a credible "*worst case possible*" scenario. If such scenarios are not forthcoming, they should be independently commissioned from an in-depth study of the pertinent literature.

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### Alternative Sites (Paras 2.0-2.11)

The initial scoping study fails to identify competing commercial interests and opens up the prospect of piecemeal gas processing development in the Vale of Pickering. Moreover, the review of alternative sites is replete with assertions that are presented without supporting evidence. For example, in the Addendum (September 2010), "significant" is used 33 times, "technically impracticable" on 5 occasions, and "efficient use of resources" is appealed to 11 times without reference to data against which such claims can be tested. Consideration of the alternative site at Knapton is singularly deficient in these respects.

The proper test for an evaluation of the alternative sites identified is to convert the beliefs expressed by the developer into rigorously evaluated findings by means of a full cost vs benefit analysis of each alternative. The central purpose would be to eliminate existing uncertainties as to preferential convenience, whether technical, tactical, or financial.

An underlying theme throughout is an appeal to "national need". It remains to be demonstrated beyond reasonable doubt that this "need" is sufficiently urgent to justify immediate action. It also remains to be demonstrated that the preferred option of a sour gas refinery is sufficiently critical for the security of UK gas supplies that it justifies breaching "saved" planning policies by industrialising a valued part of the national park and its immediate environs.

### Tourism and Economic Benefits (Paras 3-0 -3.24)

The Applicant's consultants offer a portrayal of the imagined impact of a sour gas refinery on a population of virtual tourists based upon a pick and mix collection of comparisons. This approach is flawed from the outset as there is no counterpart in the UK from which comparisons can reliably be made.

Nevertheless, in the absence of this vital baseline, five locations of underground gas storage developments are selected from which it is concluded, "*there is no evidence to suggest that the development or existence of gas processing facilities has a negative impact on tourism*". Evidence of no evidence is not an assurance of its absence, merely an indication of the quality of selected evidence from which conclusions are drawn. As it is not clear that any of the selected sites is processing sour gas or that any one of them are adjacent to a National Park, in an area of landscape value, are visually intrusive, noisy, or in close proximity to populations exceeding 3,000 persons, none are even remotely comparable. Such dissimilar comparisons are further undermined by the consultants' opinions of the Vale of Pickering as "*relatively uninteresting terrain*".

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The supposed economic benefits arising sit insecurely on this analysis. They do not take account of worst case scenarios and assume that the actual perceptions of visitors will match a population of virtual tourists derived from desk-based study. By contrast, empirical evidence of the opinions of actual tourists, visitors, and informed individuals can be deduced from a database of 13,000 signatories who testify to negative impacts.

The outcomes of a survey of business opinion conducted by the Applicant's consultants were subsequently tested against an extended survey of local business owners commissioned by the AGHAST! Campaign Group;

- 95% of local business owners agreed that the proposed Gas Works will have a harmful effect on their trade
- 91% of respondents believed that pollution from the Sour Gas Plant operating 24hrs per day will adversely affect their business.
- There was 100% agreement from all thirty five local business owners that any "stinking egg" smell drifting across the area would be unacceptable to themselves or their customers.

Further empirical evidence is available from a survey of residents conducted by NWA Social and Market Research on behalf of Thornton-Le-Dale Parish Council;

- 81.9% Against the development of a gas processing plant and associated works
- 52.7% No Benefits
- 82.8% Fear of Fire, Explosion, Toxic Gas
- 73.1% Impact on Tourism
- 84.8% Concerns about Smell

### The Place of Bad Smells?

The issue of noxious emissions is highly contested. The Applicant's consultants state that there will be "bad smells" and that these can be mitigated by the "*scheduling of maintenance work (when emissions of odours are most likely to occur) outside the visitor season (i.e. during the winter months)*". This judgement underestimates the vital necessity of business owners maximising off peak income and the overwhelming reputational damage such smells would cause across a wide area of the National Park.

The CEO of Moorland Energy Ltd has since made a "Public Pledge" on smells;

*"We have never said – implicitly or explicitly that smells will be emitted from our proposed gas processing facility in Hurrell Lane...I should like to make it absolutely clear that no unpleasant smells will emanate from our proposed facility"*

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In view of the CEO's publicly declared undertaking and taking full account of the gravity of risks to the livelihood and well being of residents and visitors alike, the Applicant and any other company acquiring operating rights should have no difficulty in honouring this public pledge by means of a legally binding condition. The function of such a condition would be to empower relevant authorities to enforce closure and decommissioning of the proposed refinery in the event of any one or more breaches of its terms.

#### **Independent Evaluation of Risk (Paras 3.23 – 4.4)**

It will be clear that the paper-based sketch of a Ryedale Gas Project provided to date is far from complete. It is short on detail with respect to safety, overconfident about tourist and environmental impacts, and overstuffed with aspirations towards best practice. Given that these proposals are for a novel and untested gas refinery under the current UK Regulatory Regime, it is imperative that an independent study be commissioned to evaluate risk through an in-depth and wide-ranging appraisal of experience in other jurisdictions.

Given that there is no urgency that "national need" is to be satisfied by the immediate construction of this particular refinery, and that its preferred location is not critical to the UK supply of gas, further perusal should be undertaken by interested parties and relevant authorities to conduct due diligence to the standards that this truly exceptional case demands.

#### **Summary**

The proposed model for a Ryedale Gas Project should be subjected to a sensitivity analysis comprised of certain tests including;

- A credible "*most likely worst case*" scenario and a credible "*worst case possible*" scenario.
- Fully detailed Risk Assessments
- Cost vs Benefit Analyses of Alternative Sites
- An Independent, In-depth, Quantitative and Qualitative Evaluation of Risk

Such supplementary information will provide decision makers with the quality and scope of evidence that is currently unavailable in order to secure the basis of a fully informed determination.

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24 NOV 2010



## FORMAL COMMENTARY

FAO: C France. Director of Planning. North York Moors National Park.

Re: Ryedale Gas Project: Proposals Submitted by Moorland Energy Ltd (MEL)  
Ref: NYM/2010/0262/EIA  
Date: November 2010

### 1.0 Outline Safety Report (MEL March 2010) Limitations and Inadequacies.

1.1 A Freedom of Information Request to the Health and Safety Executive confirmed that the proposed gas processing facility has no counterpart in the UK (Ref: HSE2010080173:10/08/10). It is therefore experimental.

1.2 The proximity of the villages of Thornton Le Dale and Wilton would necessarily expose residents, visitors and the travelling public to experimentation. As the radical character of the proposed processing plant has not been made clear, these proposals and the associated consultations have ethical shortcomings.

1.3 A fully informed understanding of the scope of risk has been obscured by suggestions that experience of "*on shore gas processing facilities designed, constructed and operated by other companies in the UK*" (Outline Safety Report (OSR) para: 9) can satisfy necessary standards of tolerability. As the proposed plant has no counterpart in the UK, not only are such unspecified comparisons potentially misleading, they fail to address the levels of scrutiny that might reasonably be required of novel or untested developments.

1.4 The proposals are currently unacceptable as the necessary evidence to support the claim that "*annualised individual risks the (sic) Well Head, Process Facility, and National Grid Connection sites will be very low*", (OSR para 6.3.2) is not provided. Whilst it is claimed that "*Moorland Energy has undertaken a high level risk assessment for its Ryedale project by extrapolating risk information and risk contours from other similar jobs*", such information appears to have been withheld.

1.5 Moreover, attempting to establish comparability by means of extrapolation is notoriously unreliable unless variables are strictly controlled. For example, grounding extrapolations in the vagaries of "other similar jobs" is a case in point. This is particularly relevant with reference to the proposed "Process Facility" as there are no counterparts operating under the UK Regulatory Regime. Extrapolating from an imagined reality will therefore pose additional risks and these will be embedded in any of the projections presented.

1.6 It is claimed that; *There are no dwellings, occupied buildings or other areas where (sic) persons are likely to congregate in the areas that the extrapolations have shown a low level but acceptable level of risk.* (OSR para 6.3.2). This highly contentious statement should be tested with reference to independently verified evidence. "Low level" concentrations of Hydrogen Sulphide are lethal (see para 1.12 below). An "acceptable level of risk" is singularly objectionable in that it presupposes that those affected have given consent on the basis of an informed decision.

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1.7 The preferred bargaining position adopted by the Applicant is that; *Assuming that planning permission is granted, Moorland Energy will commission more detailed assessments using dispersion and explosion overpressure models* (OSR para 6.3.2). Conditionality of this sort, given the importance of the subject matter, is inappropriate for it denies decision makers the opportunity of judging as to whether the numerous assertions, claims, and promissory notes concerning safety and risk can be sustained.

1.8 Further conditionality is offered as a substitute for rigorous independent scrutiny with respect to societal risk; *“Considerations of the circumstances at Ryedale suggest that without doubt that (sic) societal risk is not an issue for this Project. But assuming that planning permission and the necessary consents were to be granted, Moorland Energy would commission more detailed studies to verify or otherwise this interim observation”*. (OSR para 6.3.3). Such conditionality presents an obstacle to an informed understanding of all relevant issues in advance of a secure determination. It is also not clear that HSE has formulated its final policy on “societal risk” following recent consultations.

#### 1.9 Worst Case Scenarios

In view of the foregoing (1.1-1.6 above) it is in the public interest and compliant with the proper conduct of due diligence that the Applicant provides risk assessments in advance of planning permission being determined. Such assessments should be securely based on the twin baselines of a credible “*most likely worst case*” scenario and a credible “*worst case possible*” scenario.

1.10 Neither of these baseline specifications is stated in the available documentation nor were they apparent in the public exhibition or in related MEL media. Without such assessments, it is not clear, for example, how a satisfactory Emergency Response Plan can be framed for evaluation by responsible authorities including the NYCC, Police, Ambulance, or Fire and Rescue Services. Current advice, where it has been made available, should be reviewed pending submission of such a Plan.

1.11 The proposal put forward that; *“Careful consideration will be given to Emergency Response Planning during the construction of the Ryedale Project”* (OSR para 8) is another instance of scrutiny postponement that is unacceptable. In the interests of public safety and secure decision making, an assessment of whether resources and response times are sufficient to meet baseline “worst case” scenarios should be made in advance of permission being determined, not as a condition of permission being granted.

#### 1.12 Sour Gas and People do not mix.

Hydrogen sulphide (H<sub>2</sub>S) is extremely toxic. Exposure to the gas can have severe health effects. At lower concentrations, symptoms can include headaches, nausea, and irritation of the eyes, nose, throat, and lungs. At higher concentrations, symptoms are much more serious, including severe lung irritation, dizziness, sudden collapse (knockdown), unconsciousness, and death. In cases where exposure does not cause death, permanent damage to health can occur, such as nervous system effects and impaired learning or memory. In addition, long-term exposure to low concentrations H<sub>2</sub>S may also cause serious health problems.

Source: Hydrogen Sulphide (H<sub>2</sub>S) Exposure. Safety Report No. 173, April 2009. Workplace Safety and Health Division, Manitoba, Canada.

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1.13 A more detailed profile is outlined below;

*Concentration Effects*  
(parts per million)

0.01-0.3: Odour threshold (highly variable)

1-5:- Moderate offensive odour, may be associated with nausea, tearing of eyes, headaches or loss of sleep with prolonged exposure; healthy young male subjects experience no decline in maximal physical work capacity

10:- 8 hour occupational exposure limit in Alberta

15:- 15 min occupational exposure limit in Alberta

20:- Ceiling occupational exposure limit evacuation level in Alberta, odour very strong

20-50:- Keratoconjunctivitis (eye irritation) and lung irritation. Possible eye damage after several days of exposure; may cause digestive upset and loss of appetite

100:- Eye and lung irritation; olfactory paralysis, odour disappears

150-200:- Sense of smell paralyzed; severe eye and lung irritation

250-500:- Pulmonary oedema may occur, especially if exposure is prolonged

500:- Serious damage to eyes within 30 min; severe lung irritation; unconsciousness and death within 4-8 hours; amnesia for period of exposure; 'knockdown'

1,000:- Breathing may stop within one or two breaths; immediate collapse

Source: T. L. Guidotti *Occup. Med.* Vol. 46, No. 5. pp. 367-371.1996

1.14 The Outline Safety Report fails to specify these threats. It provides little more than a summary of general provisions and is the barest minimum of what current planning legislation might require. It fails to provide any account of what impacts the proposals would predictably have on the specific locations cited in the proposals and fails to quantify the human and material consequences of worst case scenarios over the short, medium, or long term. In the event of no further information being made available (cf 1.1-11 above), permission should not be granted in the interests of public safety.

#### 1.15 Hazards of Hydraulic Fracturing

Whilst it is clear that imposing risks to safety and well being in the immediate vicinity of c.3,000 people is both unnecessary and avoidable, less obvious material threats require systematic attention. For example, specific information should be sought on

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"Hydraulic Fracturing" to establish whether this is relevant to the Applicant's proposals. This industrial practice involves the injection of fluids into gas wells at very high pressure in order to crack open the underground formation and allow gas to flow out more easily. These fluids often contain toxic chemicals, some of which remain underground. The pressure places stress on the gas well and can lead to unpredictable consequences including contamination of water supplies.

1.16 The Environment Agency response dated 9<sup>th</sup> June 2010 (Ref: RA/2010/114632/01-L01) offers advice on potential threats to water supplies, but discussion of the hazards associated with Hydraulic Fracturing are not immediately apparent. The Applicant's proposals with respect to this technique should be investigated and clarified.

1.17 Such threats to water supplies are only now being recognized in jurisdictions that have considerably more experience of Sour Gas Processing. For example, a state-of-the-art research study has recently been announced in the U.S;

#### *HYDRAULIC FRACTURING RESEARCH STUDY*

*Natural gas plays a key role in our nation's clean energy future and hydraulic fracturing is one way of accessing this vital resource. Over the past few years, the use of hydraulic fracturing for gas extraction has increased and has expanded over a wider diversity of geographic regions and geologic formations. It is projected that shale gas will comprise over 20% of the total U.S. gas supply by 2020. Given this expansion and increasing concerns, EPA announced in March 2010 that it will study the potential adverse impact that hydraulic fracturing may have on drinking water.*

*U.S. Environmental Protection Agency Office of Research and Development*

1.18 Whilst the Applicant has stated that "We take safety very seriously" (Ryedale Gas Project: Exhibition Boards for the Proposed Development) the actual seriousness of the consequences of regulatory or system failures has not been specified. No worst case scenarios have been described and the implications of an Emergency Response Plan for residents (including possible evacuation – see para 3.24 (e) p.14) have not been presented. Such an approach stifles public awareness and denies competent authorities a full appreciation of the risks that would be imposed on residents, visitors, the general public, and decision makers alike.

1.19 Similarly, in addressing the issue of effects on the environment, no mention is made of the consequences of catastrophic failure. A dependency on "mitigation measures" and dominant overconfidence that systems and materials are very unlikely to fail is not borne out by well publicised incidents where regulatory regimes have been deemed necessary but proved to be insufficient.

1.20 The partial presentation of risk factors is highlighted in an MEL open letter from the CEO dated August 2010 (News Update Issue 2) "It would seem that, despite our best consultation efforts, there are some who choose to ignore what has been said, or reported by our professional consultants, in order to feed the rumour mill with scare stories".

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1.21 However, MEL's best consultation efforts have fallen short of full disclosure in terms of worst case scenarios. An alternative suggestion is made that what has been provided is sufficient to save everyone, including planners and decision makers, from "unnecessary worry".

1.22 In this regard, it might be noted that the author of the MEL Safety Report (March 2010) "cannot in any circumstances accept responsibility for any errors or omissions" (page 3).

1.23 In summary, the Outline Safety Report has disabling limitations. Whilst claiming that "the main safeguard is not based on controlling probabilities. It is based on an analysis of the consequences that could occur", no such analysis has been provided. It appears that only when planning gain has been secured and only when planning permission has been granted would such information be supplied. MEL should be requested to provide relevant evidence in advance of decisions affecting the safety and security of those who, it is proposed, will have risks imposed upon them for 20-25 years.

1.24 In the event of refusal, incapacity, or other grounds for failing to meet such standards, an independent report should be commissioned to assess risk. The scope of such a report should draw upon experience in other jurisdictions where sour gas processing has been prevalent or is being proposed or has more recently been approved. A critical examination of claims made about sour gas processing in the UK should minimally include location in relation to populations and quality of landscape, the history of incidents arising, the views of affected communities, and more generally, the number and severity of incidents involving high pressure gas pipelines.

1.25 In the event of refusal, or other grounds for failing to meet reasonable requests for supplementary information on the issue of safety or any other material consideration, reference may be made to provisions that may be judged relevant arising from *Newcastle Upon Tyne City Council v Secretary of State for Communities and Local Government* [2009] EWHC 3469 (Admin) regarding the validity of planning applications and the power of local authorities to impose their own requirements including; "such particulars as the local planning authority think necessary".

## **2.0 Alternative Sites: Limitations of Scope and Depth**

2.1 It is not clear that grounds for limiting the boundaries of the selected study area (Applicant's Environment Statement (ES) para 5.9) are uniquely satisfied by the choice of the Hurrell Lane site. In view of competing commercial gas processing activities, the scope of the study area might more transparently have been drawn to identify other such interests. The resulting data would have clarified the scope of predictable impacts on the Vale of Pickering arising from piecemeal proliferation of gas production facilities. They would also offer an enriched choice of alternative sites. Such considerations are material in view of MEL's stated objective for future gas processing developments (ES para 1.4 refers)

2.2 It should be noted that the alleged loss of "socio-economic benefit" is placed in the context of 'No Development' or 'Do Nothing Option' ( ES para 5.42) and seamlessly linked to a gas processing refinery at the Hurrell Lane Site. These elisions of analysis should be challenged. A fully informed view of all identified alternatives can only be judged for the purposes of determination through the application of a cost benefit analysis of each alternative site. This should be required ~~of the~~ severely restricted evaluation of alternatives as currently presented.

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2.3 It should also be noted that several sites discounted on a variety of grounds to do with saved policies and environmental impacts are commonly shared with characteristics of the Hurrell Lane Site. For example, land adjacent to the Pickering NTS (ES para 5.20), despite being a brownfield site and the subject of past permitted development is rejected on criteria that would be comparably compromised in the case of the preferred option. For example, the suggestions made of "close proximity" to residential and industrial developments are ill-defined and depend upon arbitrary criteria when tested against features also present in the case of Hurrell Lane.

#### 2.4 Knapton Generating Station

Evaluation of the alternative option of Knapton Generating Station stands in need of the most stringent scrutiny. It is, for example, unclear as to why it is stated that *"the plant has been forced to shut down the turbine on a regular basis because of the difficulty of ensuring regular flows of gas from the reservoirs"* ( ES para 5.21) when the remedy is potentially in MEL's own hands.

2.5 It is also unclear as to the absolute and unalterable necessity for sour gas processing to be conducted by means of a refinery. Accepting that *"the initial preference for Moorland Energy was to locate an electricity generation facility"*( ES para 5.13) the continuing case for such a facility remains potentially viable option, despite the special pleading outlined in the Applicant's "Addendum to Chapter 5 of Volume 1 the Environmental Statement –September 2010." For example, claims to greater "efficiency" should be demonstrated against a broad spectrum of criteria and not simply asserted.

2.6 Similarly, claims made about serving the energy needs of homes arising from the proposed Sour Gas Processing at Thornton Le Dale should be tested on a comparative basis with the Knapton output currently and a Knapton output potentially. It would appear that the proposed MEL development at Thornton Le Dale, with all the attendant impacts and hazards, would contribute very much less output for greatly increased nuisance and risk.

2.7 Concluding remarks about the unsuitability of the Knapton alternative should therefore be critically reviewed (Addendum 2010, para 1.125). The overall use of energy and resources should be quantified against the proposals at Hurrell Lane and offset accordingly. As there is no immediate or demonstrably critical national need for the MEL developments to proceed in the timescales preferred, existing contracts at Knapton will, subject to confirmation, be open to negotiation in the immediate future. Temporary shutdown at Knapton for upgrade and expansion would bring all the economic benefits claimed to apply at Thornton Le Dale with none of the hazards to residents, visitors and evident risk to the tourist economy in that location. Indeed, deferring development for (say) five years would arguably offer the nation a standby gas storage facility at no cost, no disruption, and no hazard.

2.8 In the interests of national need, avoidance of harm, loss of amenity, the efficient use of identified natural and physical resources, the 'hidden' costs of construction in terms of the consumption of energy and materials including consideration of all types of emissions and not least, full compliance with planning policy (NYCC Minerals Local Plan, "saved" policy 7/6), the potential for exportation of gas to Knapton should be exhaustively investigated independently of commercial rivalries

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## 2.9 The Test of Cost vs Benefit Analysis in Evaluating Alternatives

In any event, in view of the novel and untested nature of the Applicant's proposals in the UK and the reasonably foreseeable cause of harm, a full cost-benefit analysis should be required in this latter instance and in all other identified alternatives. The omission of such evidence degrades and undermines a full appreciation of the alternative options open for development.

2.10 Supplying this type of analysis would cleanse existing documentation in the Alternative Sites and Proposals Addendum (Sept 2010) of polemics and unsupported appeals to importance and relevance. For example, in the latter document, "significant" is used 33 times, to whom or what remains to be demonstrated. "Technically impracticable" is asserted on 5 occasions without reference to supporting evidence. "Efficient use of resources" is used 11 times without clarification as to whom or how the supposed benefit would accrue or against which data sets such claims may be tested.

2.11 The central purpose of presenting supplementary justification would be to present identifiable evidence of comparative costs and benefits in order to remove existing uncertainties as to preferential convenience, whether technical, tactical, or financial. This exercise would also replace cursory description with transparent evaluation of the relative impacts of the key criteria upon which the Applicant's proposals depends. By these means, the principle of fully informed consent will be satisfied to command public confidence in the decision making process.

## 3.0 Supposed Tourism and Economic Benefits: Problems and Issues

3.1 MEL commissioned a report "*Tourism and Economic Impacts Assessment for the Proposed Ryedale Gas Project*" Bowles Green Ltd (BG) June 2010). As no credible worst case scenarios underpin the speculations and opinions supplied, its conclusions should be treated with caution.

3.2 With reference to the "Yorkshire and Humber Regional Economic Strategy: 2006-2015" attention is drawn to an aspiration to; "*further develop what our unique tourist offer is, what will set us apart from other tourist locations....In doing this quality will be our watchword –quality of product, of place, of experience, of welcome*" (BG para 2.4). A Sour Gas Processing Refinery will hardly add to the quality of that experience, quite apart from the resulting industrialisation of Thornton Le Dale, widely acknowledged to be one of the prettiest villages in Yorkshire.

3.3 With regard to the "North York Moors National Park (NYMNP) Core Strategy and Development Policies (BG paras 2.11-2.13) Policy A1 states that emphasis will be placed on; "*Providing a scale of development and level of activity that will not have an unacceptable impact on the wider landscape or the quiet enjoyment, peace and tranquillity of the Park, nor detract from the quality of life of local residents or the experience of visitors*". As the Sour Gas Plant is proposed to be sited on the boundary of the Park and immediately adjacent to one of its main tourist attractions, these proposals are in clear breach of that Policy.

3.4 Attention is drawn to NYMNP's "*tourism strategy in the sub-region....natural beauty is a key aspect of the regional and sub-regional tourism offer*" (BG para 2.14) and to the Tourism Partnership's Brand and Research Manager's assessment of the Ryedale Sour Gas Project's proposed location at Hurrell Lane;

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*"Visitors to the area value the unspoilt nature of the local environment and their overall experience is currently one of a very high quality. 2.2 hectares is a large area and the proposed structures will be of a significant scale, they are unsightly and I don't feel can easily be blended into the landscape by painting and screening". (BG para 2.26)*

3.5 It is a measure of the potential for bias in the BG Report (para 2.27) that condemns the Vale of Pickering as *"relatively uninteresting terrain"* (!)

3.6 The BG Report (para 2.28) states that *"The development at Givendale Head ..... does not appear to be deterring visitors,"* This statement is mystifying as there is no development currently in that location and references to *"existing plant"* is equally obscure. Nevertheless, a parallel is said to arise from the predicted effects on visitors were they to encounter the proposed development at Hurrell Lane. The MEL proposals for development (ES para 4.4) state that the *"Eberston Wellsite is located near Givendale Head Farm,..... The compound measures some 114.5m x 146m"*. To compare this well site with a Sour Gas Refinery occupying an area of 322m x 177m comprising 56,994m<sup>2</sup> (or 14 acres) of industrialised development, defined in terms of a Major Accident Hazard, is a further pointer to the potential for bias in the BG report.

### 3.7 Supposed Impacts of Similar Developments Elsewhere

Equivalent "comparisons" are offered on the "Impacts of Similar Developments Elsewhere" (BG paras 2.39 – 2.45). As there is no UK counterpart to the Applicant's proposals, such comparisons are fundamentally flawed. However, a number of *"Underground Gas Storage Facilities"* are quoted as having relevance to visitor experience of gas processing in order to conclude; *"There is no evidence from evidence elsewhere that such operations cause negative impacts to the tourism industry"* (BG para 2.51). Evidence of no evidence is not an assurance of its absence, merely an indication of the quality of selected evidence from which conclusions are drawn. This is particularly pertinent in circumstances where insecure comparisons are made.

3.8 Of greater relevance is that such evidence as is presented and the conclusions drawn from it are used to support calculations and assessments of economic impact (BG paras 3.1 – 3.31). Such assessments have subsequently been headlined as offsetting benefits arising from the Ryedale Gas Project (MEL News Update Issue 2 Summer 2010). If insecure evidence is provided as a baseline, supposed economic benefits are illusory.

3.9 If we now examine the quality of the evidence presented of the supposed visitor experience of "similar developments elsewhere" and of theoretically comparable "tourist destinations", we may note the following;

- It is not clear that any of the sites quoted are processing sour gas.
- It is not clear what "significant" over ground structures actually means.
- It is not clear what interpretations can reliably be derived from the reported fact that "the majority of officers consulted were unaware that gas storage facilities existed within the destinations they manage" ( BG para 2.45).
- It is not clear if any of the sites quoted are adjacent to a National Park, in an area of landscape value, are visually intrusive, or in close proximity to populations exceeding 3,000 persons.

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- It is not clear whether in light of current legislation, the majority of the sites quoted would meet current planning standards.
- It is not remotely clear that "The Rough, North Sea Terminal at Easington, East Yorkshire" or "Hatfield Moors" are known as tourist destinations supporting visitor numbers in the region of 137,000 leisure visits per year (BG para 2.20).
- It is not clear that the site or sites designated as "Cheshire, various" can support any reliable interpretations for the purposes of the Applicant's proposals.
- It is not clear that a desk based scenario of virtual tourist experience of dissimilar sites can be relied upon to provide a foundation for calculations of likely tourist impacts and economic benefits at Thornton-le-Dale.

3.10 BG paras 3.1-3.31 offer projections to support the conclusions of an "Economic Impact Assessment". As no countervailing factors are factored in to account for worst case scenarios or empirically verified observations of actual tourist experience, the numbers proposed and the conclusions drawn are less than robust.

3.11 BG paras 2.30 – 2.38 offer an account of the "Opinions of Tourism Businesses" in which it is claimed that *"The opinions of businesses in Thornton-le-Dale were split between those that felt the development would have a negative impact on tourism and those that felt there would be no impacts beyond minor disruption during the development phase"*. (BG para 2.34).

### 3.12 Survey of Business Opinion

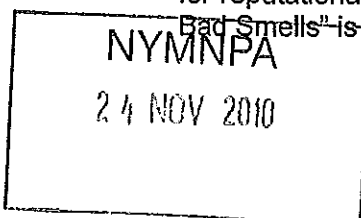
AGHAST! commissioned its own "Survey of Business Opinion" in order to address both issues; i.e. Tourism Business Opinion and perceived Economic Impacts. Between 28<sup>th</sup> June 2010 and 28<sup>th</sup> July 2010, a cross section of the retail, catering, and service sectors with a bias towards tourist accommodation providers trading within approximately two miles of Thornton Le Dale were contacted by means of an opinion survey and letter of introduction. The majority of respondents were conducting business in the village itself.

3.13 Thirty five businesses responded to the survey. (Response Rate = 76%) The findings concerning tourism impact and economic benefit demonstrate that;

- 95% of local business owners agreed that the proposed Gas Works will have a harmful effect on their trade.
- 91% of respondents believed that pollution from the Sour Gas Plant operating 24hrs per day will adversely affect their business.
- There was 100% agreement from all thirty five local business owners that any "stinking egg" smell drifting across the area would be unacceptable to themselves or their customers.

### 3.14 The Place of Bad Smells?

The key concern to do with "bad smells" from Hydrogen Sulphide affecting air quality is a highly contentious issue. Quite apart from the health hazards posed, the potential for reputational damage to Thornton Le Dale and adjacent villages as "The Place of Bad Smells" is a serious and material consideration.



3.15 The BG Report on behalf of MEL comments as follows;

*"Until recently the Knapton operation has screening issues and was emitting H<sub>2</sub>S odours. During this time, Flamingoland attracted 200,000 visitors per year and the gas facility does not appear to have had a negative impact on visitor numbers" (para 2.41)*

The extremely tenuous causal connections imputed here and the conclusions drawn from them should be noted as having the potential to significantly mislead. For example, it is not immediately apparent that visitors to a Theme Park are seeking the "quiet enjoyment, peace and tranquillity" afforded by a National Park destination even if, at such a distance, it was possible to detect odours from Knapton at 'Flamingoland'.

3.16 The BG Report comments further (para 2.37);

*"The possible negative tourism impacts of any bad smells issuing from the proposed plant could be significantly mitigated by the scheduling of maintenance work (when emissions of odours are most likely to occur) outside the visitor season (i.e during the winter months)"*

Quite apart from the admission that bad smells will arise, the critical time for local businesses to secure their viability is to seek to attract trade outside the visitor season.

3.17 Pledge on Smells

In direct contradiction of the professional opinion of his own consultants, the Moorland Energy CEO made the following public statement;

*"Pledge on Smells;.....We have never said – implicitly or explicitly that smells will be emitted from our proposed gas processing facility in Hurrell Lane...I should like to make it absolutely clear that no unpleasant smells will emanate from our proposed facility"*

L Erasmus Chief Executive Moorland Energy, *Gazette and Herald* July 14<sup>th</sup> 2010

3.18 By contrast, the declared terms of MEL's "Response to Technical Objectors", paras 1.11 – 1.14 refers to "Odour Management"; "Odourous releases of hydrogen sulphide and mercaptans at the site from other potential sources will be mitigated through the application of Best Available Techniques" (para 1.12) a "fugitive emissions management plan". (para 1.13) is proposed together with "vapour balancing to minimize emissions during loading and unloading". Para 1.14 concludes with the statement that the "flare listed in correspondence will only be used in the event that an emergency depressurisation is required and this kind of event would last no more than 15 minutes".

3.19 Whether these descriptors do or do not substantiate the CEO's "Pledge on Smells" is an open question (see para 3.15 above). Of greater importance is the fact that all of these mitigation measures will need to be harmoniously and securely conjoined for a period of 20-25 years in order for the CEO's Pledge to be fulfilled.

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3.20 It should be recalled that smelling any "bad smells" is judged to be wholly intolerable to the business community in Thornton Le Dale and area (ref AGHAST! "Survey of Business Opinion" August 2010). It should also be recalled that were such emissions to exceed approximately 100 ppm, the olfactory nerve will be paralysed and what cannot be smelled has the potential to kill or cause permanent injury.

3.21 In the event of permission being granted to the Applicant, a legally established definition of odour nuisance should be considered as a planning condition. For example;

*an emission of any gas, vapour, fume, or mist, or combination thereof, from a well or its associated surface facilities, in whatever quantities, that causes, either alone or in reaction with other air contaminants, injurious effects to human health or safety; unreasonable injurious effects to animal life, plant life of significant value, or property; or unreasonable interference with the comfortable enjoyment of life or property.*

This definition (or similar) should underpin a clear and unambiguous condition to retain rights of enforcement of permanent closure and decommissioning of the proposed refinery in the event of any one or more breaches of its terms.

3.22 In view of the CEO's publicly declared undertaking (para 3.15 above), and taking full account of the risks to the livelihood and well being of residents and visitors, MEL should have no difficulty in honouring this public pledge by means of a legally binding agreement resolved in clear and unambiguous terms.

### 3.23 Impending Decentralisation and Localism Bill

The Coalition Government's proposals to reform the planning system with the aim of taking greater account of the opinions of local people on local issues should be perused in the light of;

-13,000 + + signatories objecting to MEL's Sour Gas Project (cf: AGHAST! news update Nov 2010)

-Thornton-Le-Dale Parish Council/ NWA Opinion Survey of Residents

- 81.9% Against the development of a gas processing plant an dassociated works
- 52.7% No Benefits
- 84.8% Concerns about Smell
- 82.8% Fear of Fire, Explosion, Toxic Gas
- 73.1% Impact on Tourism

Source: NWA Social & Market Research (N= 571 returns from 389 households) August 2010

### 3.23 Independent Evaluation of Risk and Environmental Impacts.

Paying due regard to the potential for destructive impacts arising from noxious emissions and "bad smells" and the likelihood of litigation arising, the most rigorous independent scrutiny should be sought from an in-depth qualitative and quantitative study of comparable well sites and sour gas processing facilities in other jurisdictions.

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3.24 Some useful starting points;

**(a) Can odors be completely eliminated?**

*Hydrogen Sulfide can be detected by smell at concentrations as low as a few parts per billion. For this reason it is extremely difficult to totally eliminate all odors all the time. Upon receiving complaints, the Supervisor of Wells may require the permittee to calculate the predicted concentration of H<sub>2</sub>S in the air at the closest occupied structure or public recreation area and may then require appropriate emission control measures.*

Department of Natural Resources and Environment. Michigan. USA.

**(b) Hydrogen Sulfide, Oil and Gas, and People's Health**

*"Oil and gas facilities can be expected to accidentally and routinely emit hydrogen sulfide in concentrations that span a wide range and are associated with a variety of health effects. Academic studies, my conversations with health department staff, and available data from monitoring projects help establish that hydrogen sulfide is indeed present near oil and gas facilities."*

Extract from Conclusions; L Skrtic (2006) "Hydrogen Sulfide, Oil and Gas, and People's Health" Energy and Resources Group University of California, Berkeley USA

**(c) Analysis of Ruptures on Pipelines.**

*"There were three fatalities and fourteen injuries caused by the ruptures of the federally regulated pipelines over the past twenty years. Ruptures associated with fires of the gas and high vapour pressure pipelines caused most of the fatalities and injuries. The dominant rupture causes are external corrosion, stress corrosion cracking, and third-party damage in this order of magnitude. The pipelines that ruptured during the last five years were internally inspected. The in-line inspection tools could not properly detect the defects that caused the ruptures."*

Dr. F Jeglic (2004) "Analysis of Ruptures and Trends on Major Canadian Pipeline Systems" National Energy Board. Calgary, Canada

**(d) Hazards associated with Sour gas**

*"Sour gas" is natural gas containing components such as hydrogen sulphide and carbon dioxide that form acids when mixed with water. The technical problems this poses for gas producers is that acids corrode steel and most other metals used to line wells and make pipelines, as well as other gas production and processing equipment. They also eat through the plastic seals in most gas pumps.*

*There are serious health problems associated with hydrogen sulphide, a deadly constituent of most deep gas deposits.....There has been high human cost wherever sour gas has been produced. In the 1920s, hydrogen sulphide exposure killed 30 oil and gas workers in Texas over two years.*

*In 1982, a blowout at a Canadian sour-gas well killed two people and hundreds of*

NYM (title), while thousands more people complained of headaches, eye irritation,

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nosebleeds and "flu-like" symptoms. The world's worst sour-gas disaster occurred in 2003 in central China, when a toxic cloud from a well blowout near the city of Chongqing killed 243 people.

*The environmental costs of sour-gas production can also be high. Pumping it always results in at least some emission of sulphur dioxide, a pollutant linked to poor air quality and acid rain."*

Tamsin Carlisle, Senior Business Reporter – Energy, "The National" Abu Dhabi Media Company Last Updated: April 28, 2010 9:50PM UAE / April 28, 2010 5:50PM GMT

#### **(e) More drillers in risky business**

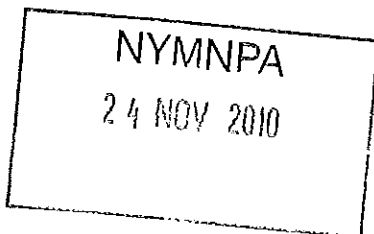
*"The search for oil and gas is getting riskier as better and cheaper technology lures more companies to new frontiers. While BP's Gulf of Mexico oil spill shows even the biggest international oil firms can make huge mistakes, smaller and less experienced companies are also encountering serious problems while drilling under challenging conditions. In May, a Kurdish village of about 100 people was evacuated for a month after a blowout in northern Iraq. WesternZagros Resources, a Canadian oil junior, lost control of a nearby exploration well after hitting a high-pressure pocket of sour gas about 4,000 metres underground. "The company initiated emergency response procedures," WesternZagros said in its second-quarter report. "The well was safely controlled with no injuries or atmospheric release of gas."*

*It was a near miss. An uncontrolled release of toxic hydrogen sulphide could have killed people. "There are other fields in the Kurdistan area of Iraq that are high [in hydrogen sulphide] but it's really unpredictable," Simon Hatfield, the chief executive of the company, told the Calgary Herald, a Canadian daily newspaper. "This was not predicted.".....The problem well has cost WesternZagros US\$91 million (Dh334.2m), including a large bill from Boots & Coots International Well Control. An insurance claim covers about \$35m of the expenses. Taqa North, a larger company controlled by the Abu Dhabi Government, had a similar problem last year in the Canadian province of Alberta. A blowout occurred during maintenance work on a well about 500 metres from a main road and 4km from the town of Crossfield, a prairie farming community.....Regulators blamed the accident on "human error arising from a lack of oversight and supervision of maintenance crews".*

*..... In Pennsylvania, EOG Resources had a blowout at a shale-gas well in June that the US state's environmental protection department said could have been "catastrophic". On June 3, the out-of-control well expelled gas and chemicals-laced water for 16 hours. The Houston-based EOG is a large independent oil and gas producer that has drilled hundreds of wells.*

*Last month, the department fined EOG \$400,000 after experts blamed the blowout on human error and procedures that fell short of industry best practices. "This incident was preventable and should have never occurred," said John Hanger, the department's secretary.*

Tamsin Carlisle, Senior Business Reporter – Energy, "The National" Abu Dhabi Media Company. Last Updated: Aug 15, 2010



#### 4.0 Residual Issues: Accountability and Capability

4.1 When large scale catastrophic events arise, companies who may theoretically be held accountable typically seek the protection of administration. What provisions are proposed to underwrite obligations and responsibilities?

4.2 What provisions are proposed to indemnify local residents and business owners against increased premiums in light of their proximity to a Major Accident Hazard or the refusal of insurers to accept risk?

4.3 In view of the proposed developments becoming a terrorist target and thereby deemed to be an uninsurable risk, what provisions do relevant authorities intend to negotiate for those upon whom risks are being imposed?

4.4 MEL proposals presumes that c. 137,000 tourists and visitors annually will be uninformed about risks arising from smells, disruption, noise, disturbance etc and that leisure visits will take place in an Emergency Planning Zone of a Major Accident Hazard. What steps do Members and Officers intend to take to manage the practical and ethical consequences arising?

Prof. G H Bell  
Thornton-Le-Dale: November 2010.

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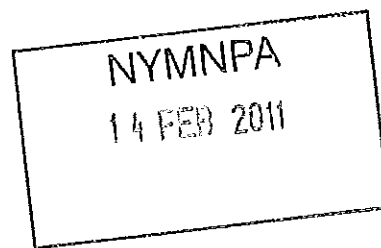
## Ryedale Gas Project - Troutdale

Investigations in the area of the well head have exposed further problems which appear not to have been previously considered. The head of the Troutdale valley, which lies immediately north and adjacent to the well head, is home to an SSSI, a trout lake and four or five houses with livestock. The well head site is at the centre of the water catchment area feeding the dale via a series of springs.

A study of the OS map combined with a walk along the footpaths in the area showed that the well head is situated at a height of approx. 220 metres at the top of a porous limestone ridge extending east-west along the southern edge of the head of the Troutdale valley. There is a large series of springs on the southern side of this valley with a spring-line height of 150-160 metres which empty into Troutdale Beck and form the main water supply for both residents and livestock. The well head occupies a central position on the ridge about 70 metres above and only 200 metres south of the nearest springs.

The well head development proposal includes large storage tanks for methanol and an unspecified corrosion inhibitor at the site, both of which will need continual replenishment, and there is also a plan to undertake further extensive drilling there which will involve the use of drilling fluids. There appears to be no provision made for bunding and waterproofing the site or for the containment of any fire fighting water. Any spillages or loss of containment will inevitably result in contamination of the water supply to the valley.

Talking with a number of the local residents during the walk showed that there was considerable concern there over the likely effect of the development of the well head site and their lack of information.



**RYEDALE SOUR GAS PROJECT: Comments for Consideration by Members and Officers of Ryedale District Council.**

*Abridged and updated from "Issues for Inquiry": Formal Commentary submitted to NYCC and NYMNP, November 2010.(LPA Refs:NY/2010/0159/ENV and NYM/2010/0262).*

Professor G H Bell

**Outline**

1.0 The Ryedale Sour Gas Project proposed by Moorland Energy Ltd is a major challenge to the strategic vision of Ryedale as set out in its Draft Core Strategy;

*Aim 2: To protect and enhance the safety and well-being of local communities*

*Aim 3: To protect and enhance the environment (p.22)*

The Applicant's proposals are probably the single most important test of that strategy. A great many residents and visitors will expect a robust defence of Ryedale District Council's vision on safety and the environment whilst acting in its capacity as a Consultee.

1.1 The Applicant's proposals are to construct a **novel and untested** Sour Gas Refinery in close proximity to around 3,000 people in a nationally acclaimed environment.

1.2 The level of detail supplied in this application falls short of what may reasonably be required to support an informed decision. This is not to say that exploiting gas reserves in the Vale of Pickering is unacceptable but that the current 'off plan' proposals offer explanations with restricted justifications that are based upon limited evidence. There is no urgent necessity to impose risks on several hundred households and an estimated 137, 000 leisure visitors annually. To do so immediately, using one preferred method, in a location favoured by the Applicant is premature.

1.3 It should be noted that the developer's ambitions are being pursued in spite of independently validated objections from 81.9% of residents of Thornton-Le-Dale, in excess of 13,000 signatories to a petition declaring opposition to the proposals, and 95% of local business owners judging that the proposed Gas Works will have a harmful effect on their trade

1.4 The following commentary reviews three main issues; **health and safety, alternative sites, and tourism and economic benefits.**



## 2.0 Health and Safety: Ryedale Guinea Pigs

2.1 The Health and Safety Executive has confirmed that the proposed gas processing facility has no counterpart in the UK (Ref:HSE 2010080173:10/08/10). It is therefore experimental.

2.2 The Applicant's "Outline Safety Report" fails to specify in detail the scope of exposure to risk, the type of risk sour gas processing poses, or the consequences of regulatory regime failure. It is proposed that such information will be provided as a condition of planning permission being granted. Conditionality of this sort is wholly unacceptable in the exceptional circumstances of this case for it denies decision makers a fully informed basis from which secure judgements about public safety can be made.

2.3 Such hidden risks are themselves unsafe and should have been corrected by means of a thorough examination of "worst case scenarios" comprising;

- (i) a credible "*most likely worst case*" scenario
- (ii) a credible "*worst case possible*" scenario.

In either case, the consequences of Sour Gas contamination would be catastrophic. This has occurred on many occasions in other countries.

2.4 It might be noted that the author of the Applicant's Safety Report (March 2010) "*cannot in any circumstances accept responsibility for any errors or omissions*" (page 3).

### Major Accident Hazard

2.5 The proposed development will be classified as a "Major Accident Hazard". This classification arises from its potential for technical failure, human error, or terrorist activity. An Emergency Response Plan will be required that will involve the Police, Fire, and Ambulance services.

2.6 However, as "worst case scenarios" have not been described and the implications of an Emergency Response Plan for residents (including possible evacuation) have not been presented, it is unclear as to whether available resources would be sufficient to match the threats. Such an approach stifles public awareness and denies competent authorities a full knowledge of the risks that would be imposed on residents, visitors, and decision makers alike.

### Regulatory Failures

2.7 As the proposed gas refinery has no counterpart in the UK, it is necessary to look to other countries where on shore sour gas operations have been developed in order to be aware of the risks involved.

2.8 For example, regulations designed to control health and safety has proved to be notoriously insecure in parts of the USA where recent intensive on-shore gas exploitation has been likened to a latter-day Gold Rush. Independent

evidence arising from this experience is readily available to evaluate Moorland Energy Ltd's own proposals and is not reassuring.

2.9 In one State alone, the Pennsylvania Land Trust reports that gas drillers in Pennsylvania commit an average of 1.5 regulatory violations per day, based on "Right To Know" requests to the Department of Environmental Protection. In the last two and a half years, drilling companies were cited for 1,435 violations -- 952 of which were considered most likely to harm the environment.

2.10 In Canada in 1982, a blowout at a Canadian sour-gas well killed two people and hundreds of cattle while thousands more people complained of headaches, eye irritation, nosebleeds and "flu-like" symptoms. The blowout lasted 67 days and bad smells from it could be detected 1,500kms away

In 2004, a study of pipeline failures reported that;

*"There were three fatalities and fourteen injuries caused by the ruptures of the federally regulated pipelines over the past twenty years.. The pipelines that ruptured during the last five years were internally inspected. The in-line inspection tools could not properly detect the defects that caused the ruptures."*

Dr. F Jeglic (2004) "Analysis of Ruptures and Trends on Major Canadian Pipeline Systems" National Energy Board, Calgary, Canada

In 2008, approximately 90% of complaints about gas plants in Alberta were about odours and the effects of operating them, e.g noise, flare, spill etc.

ERCB ST57-2009: ERCB Public Safety/Field Surveillance Provincial Summary 2008

In 2010, a well blowout resulted in road closures for 4kms around the site for several days whilst the fire and toxic gas emissions were brought under control.

2.11 In China, a toxic cloud from a well blowout near the city of Chongqing killed 243 people.

2.12 In Iraq, a Kurdish village of about 100 people was evacuated for a month in May 2010 after a blowout occurred in a nearby exploration well after hitting a high-pressure pocket of sour gas.

2.13 Very many more instances could be cited. The intention, however, is not to suggest that sour gas exploitation is unacceptable in any circumstances but to highlight the avoidable and unnecessary risks of proposing a gas refinery as a sole means of processing sour gas and putting it in close proximity to 3,000 people in one of the prettiest villages in England.

### Sour Gas and People do not mix.

2.14 Hydrogen sulphide (H<sub>2</sub>S) is extremely toxic. Exposure to the gas can have severe health effects. At lower concentrations, (100 parts per million) symptoms can include headaches, nausea, and irritation of the eyes, nose, throat, and lungs. At higher concentrations (150 parts per million plus) symptoms are much more serious, including severe lung irritation, dizziness, sudden collapse (knockdown), unconsciousness, and death. In cases where exposure does not cause death, permanent damage to health can occur, such as nervous system effects and impaired learning or memory. In addition, long-term exposure to low concentrations H<sub>2</sub>S may also cause serious health problems.

2.15 The Applicant's "Outline Safety Report" fails to specify these threats. It provides little more than a summary of general provisions and is the barest minimum of what current planning legislation might require. It fails to provide any account of what impacts the proposals would predictably have on the specific locations cited in the proposals and fails to quantify the human and material consequences of worst case scenarios over the short, medium, or long term.

2.16 Instead of providing this information, the Applicant's report proposes that such detail will be supplied as a condition of planning permission being granted. Conditionality of this sort is wholly unacceptable in the exceptional circumstances of this case for it denies decision makers a fully informed basis from which secure judgements about public safety can be made.

### **Alternative Sites**

3.0 The initial scoping study fails to identify competing commercial interests and opens up the prospect of piecemeal gas processing development in the Vale of Pickering. Moreover, the review of alternative sites is full of assertions that are presented without supporting evidence. For example, in the Addendum (September 2010), "significant" is used 33 times, "technically impracticable" on 5 occasions, and "efficient use of resources" is appealed to 11 times without reference to data against which such claims can be tested.

3.1 Consideration of the alternative sites at Knapton is singularly deficient in these respects. Other than for reasons of commercial convenience, it is difficult to accept that negotiations to burn sour gas at that site to generate electricity could not be satisfactorily concluded. This alternative would avoid a situation where residents and visitors to Thornton Le Dale and area will be forced to carry the burden of underwriting the considerable risks involved.

3.2 For all the potential nuisance and risk, the total power capacity proposed for the Hurrell Lane Gas Processing Facility is approximately 95% smaller than the Knapton Power Station. An imminent upgrade at Knapton is expected to provide considerably more capacity and make the Thornton site even less relevant.

3.2 However, the proper test for an evaluation of the alternative sites identified is by means of a full cost vs benefit analysis of each one. The aim would be to eliminate existing ambiguities and uncertainties whether these arise from technical, tactical, or financial convenience. Such rigour is absent from assessments of the alternative sites selected by the Applicant.

3.3 An underlying theme throughout is an appeal to "national need" for gas supplies. However, it remains to be demonstrated beyond reasonable doubt that this "need" is sufficiently urgent to justify immediate action. It also remains to be demonstrated that the preferred option of a sour gas refinery is sufficiently critical for the security of UK gas supplies that it justifies breaching "saved" planning policies and industrialising a valued part of the national park and its immediate environs.

3.4 Indeed, it could equally well be argued that as this proposed development appears to provide little more than one tenth of one percent of gas usage nationally, it would be more useful for the national economy if such resources were deemed to be standby gas storage facilities at little or no cost. These resources could then to be made available in a very short timescale when national need was clearly urgent and sufficiently critical to justify the imposition of risk on thousands of people.

**Tourism and Economic Benefits: "The Relatively Uninteresting Terrain of the Vale of Pickering".**

4.0 "The relatively uninteresting terrain of the Vale of Pickering" is one of the key opinions of the report of Moorland Energy Ltd consultants (page 9 para 2.27) on the impact of sour gas processing on tourism and the local economy. This thinking goes some way towards explaining why proposals to industrialise Thornton Le Dale are considered to be a good idea.

4.1 Needless to say, this belief stands in stark opposition to Ryedale District Council's own opinion of its "*high quality environment*", where its "*Landscape and Environment .... is a cherished mixture of towns, villages and landscapes. It is a peaceful sanctuary, not crowded or polluted*" and where the District Council envisages a future in which, "*Our rural identity will be strengthened and our distinctive and high quality landscapes will be protected and enhanced*" (Draft Ryedale Plan, Core Strategy).

4.2 "Relatively uninteresting terrain" is clearly not the considered view of the Yorkshire Moors and Coast Tourism Partnership and Ryedale District Tourism Department either;

*"Visitors to the area value the unspoilt nature of the local environment and their overall experience is currently one of very high quality. 2.2 hectares is a large area and the proposed structures will be of a significant scale, they are unsightly, (and cannot) easily be blended into the landscape by painting and screening".*

4.3 Against this background, the Applicant's consultants proceed to assess the supposed tourism and economic benefits. They do this by speculating about the reactions of a population of imagined tourists. Their assessment is based upon a pick and mix collection of comparisons with other installations elsewhere. This approach is flawed from the outset as there is no counterpart in the UK from which comparisons can reliably be made (see para 2.1 above.)

4.4 Nevertheless, in the absence of this vital baseline, five locations of underground gas storage developments are selected from which it is concluded, *"there is no evidence to suggest that the development or existence of gas processing facilities has a negative impact on tourism"*. Evidence of no evidence is not an assurance of its absence, merely an indication of the quality of selected evidence from which conclusions are drawn.

4.5 As it is not clear that any of the sites selected for comparison is processing sour gas, or that any one of them are adjacent to a National Park, in an area of landscape value, or in close proximity to populations exceeding 3,000 people, none are even remotely comparable. For example, two of the sites identified, "The Rough, North Sea Terminal at Easington, East Yorkshire" and "Hatfield Moors" are hardly best known as tourist destinations supporting visitor numbers assessed (at Thornton Le Dale) to be in the region of 137,000 leisure visits per year

4.6 The supposed economic benefits that are claimed for the Ryedale sour gas project sit somewhat insecurely on this analysis. These supposed benefits do not take account of worst case scenarios arising from noise, pollution, spillage, smells, or failures of regulations and assumes that the actual perceptions of visitors will match a population of virtual tourists derived from desk-based study.

#### Evidence from Residents, Visitors, and Local Business Owners

4.7 Actual evidence derived from the opinions of real tourists, visitors, and others can be found in a growing database of some 13,000 signatories that clearly testify to negative impacts arising from the proposed development.

4.8 The results of a survey of business opinion conducted by the Applicant's consultants were subsequently tested against an extended survey of local

business owners commissioned by the AGHASTI Campaign Group. This survey showed that;

- 95% of local business owners agreed that the proposed Gas Works will have a harmful effect on their trade
- 91% of respondents believed that pollution from the Sour Gas Plant operating 24hrs per day will adversely affect their business.
- There was 100% agreement from all thirty five local business owners that any "stinking egg" smell drifting across the area would be unacceptable to themselves or their customers.

(Ref: ACTION AGAINST SOUR GAS IN THORNTON LE DALE: Formal Submission to NYCC, and NYMNP. 2010.)

4.9 In short, local business owners judged the supposed economic benefits to be illusory and that any jobs created will come at the expense of their own trade.

4.10 Further independent evidence is available from a survey of residents conducted by NWA Social and Market Research on behalf of Thornton-Le-Dale Parish Council;

- 81.9% Against the development of a gas processing plant and associated works
- 52.7% No Benefits
- 82.8% Fear of Fire, Explosion, Toxic Gas
- 73.1% Impact on Tourism
- 84.8% Concerns about Smell

### The Place of Bad Smells

5.0 The issue of noxious emissions is highly contested. The Applicant's own consultants state that there will be "bad smells" and that these can be mitigated by the "*scheduling of maintenance work (when emissions of odours are most likely to occur) outside the visitor season (i.e. during the winter months)*". This judgement underestimates the vital necessity of business owners maximising off peak income and the overwhelming reputational damage such smells would cause across a wide area of the National Park.

5.1 Another of Moorland Energy Ltd consultants' concludes "*that odour will not be a significant issue for any properties, including those at Thornton, Wilton and Ebberston*". At para 3.0 (above), attention was drawn to 33 uses of the word "significant". Add one more. What does "not significant" mean? To whom, when, for how long, in what ways etc? It certainly does not suggest absolutely no smells at all, otherwise one expects this consultant to have said so.

5.2 It seems that everyone will have to guess whether "There will be a smell" or "There may be a smell sometimes". Either way, a major tourist destination renowned for its environmental quality should not be exposed to avoidable

bad egg smells for the next twenty to twenty five years. And that assumes that all goes perfectly all of the time.

5.1 In the words of one respondent to the "Survey of Business Opinion" (August 2010, para 4.8 above)

*"This development would be a violation of our right to enjoy the environment which means so much to us all, let alone the many visitors that enjoy this area. Having lived and worked around landfill sites....I know more than most locals just how awful the constant smell of the burning of methane would be to locals and visitors alike. The Area would soon be known for this!"*

## Summary

6.0 It will be clear that the Applicant's plan for a Ryedale Gas Project is far from complete. It is short on detail with respect to safety, overconfident about tourist and environmental impacts, and overstuffed with aspirations towards best practice.

6.1 Given that there is no urgency that "national need" is to be satisfied by the immediate construction of this particular refinery, and that its preferred location is not critical to the UK supply of gas, more attention should be given to alternative means of processing gas from the existing well and closer scrutiny paid to supplying gas for generating electricity at Knapton.

## Further Questions

7.0 When large scale catastrophic events arise, companies who may be held accountable typically seek the protection of administration. What provisions are proposed to underwrite obligations and responsibilities?

7.1 What provisions are proposed to indemnify local residents and business owners against increased premiums in light of their proximity to a Major Accident Hazard or the refusal of insurers to accept risk?

7.3 Moorland Energy's proposals presumes that c. 137,000 tourists and visitors annually will be uninformed about risks arising from smells, disruption, noise, disturbance etc. Leisure visits will take place in an Emergency Planning Zone of a Major Accident Hazard. Is this what Ryedale wants?

7.4 As it appears that the Hurrell Lane Site is potentially available for industrial development, what steps will be taken to consider alternative land uses whilst assisting the Applicant to secure its own aims by other means? For example, the proposed site occupies some 22 acres or 9.2 hectares. Affordable homes and housing needs are greater than gas supply needs. Fewer homes are being built now than during any peacetime period since 1924. This site could yield 225-450 homes, employ hundreds of construction workers and trades people, support jobs on an ongoing basis, provide an annual tax yield for Ryedale over several decades in excess of £650,000 and provide real income benefits to local businesses around £0.5m per year. Do we really need a Major Accident Hazard instead?

---

rk Hill

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**From:**  
**Sent:** 01 October 2010 14:00  
**To:** Chris France  
**Subject:** FOI 15th September 2010; Applicant Moorland Energy

Dear Chris France,

Thank you for the courtesy of your call this morning. The FOI/HSE reference confirming that the proposed Sour Gas Refinery has no counterpart in the UK. (and is therefore experimental) is cited in para

2 (ii) of my letter to your CEO dated 15th September 2010.

You asked for an elaboration of the background to this request in order to provide a focused response.

I trust that you are now more adequately briefed so as to minimise unnecessary work. However, for the avoidance of doubt, I shall rehearse the assumed context in what follows:.

As this proposed refinery (of which the well head is an essential link) is unique and without precedent in the UK (refHSE/FOI), it is essential that the most rigorous scrutiny be conducted as to the operational history of such sites elsewhere. I wish to peruse the scope and quality of due diligence carried out as this will be a material fact in the event of any subsequent challenge from interested parties. It will be of paramount importance for Members in coming to a defensible decision on risk to be fully informed in terms of both safety and the emission of either toxic or noxious emissions, so called "Bad Smells" (Cf: Erasmus, CEO Moorland Energy Ltd, Gazette & Herald 14/06/10 & Bell, G&H 21/06/10 ).

I suggest that these issues are "paramount" because, they bear on speculative projections based on a de novo development for which there is no UK evidence. Whilst existing policies might be breached on other criteria, e.g "saved policies", safety and smells can only be judged on the best evidence available from other jurisdictions. The quality of that advice will be crucial not only in cases where proposals fail the test of secure implementation at some future date, but in determining whether "saved policies" ought to be overridden by an appeal to "national need".

In order to demonstrate due diligence, the supplementary aspect of historic Environmental Impact data will also need to be addressed. I will therefore forward to you, by separate email, the outcomes of an Environment Agency FOI Request. Without burdening you or your colleagues with a further FOI Request on this related topic, I trust you will recognise its relevance in demonstrating due diligence and voluntarily follow this up. I am not prepared to be charged for access to public service data and so will rely on your good offices in taking the available evidence from this source into account.

Trusting this further contextual information is helpful, with renewed thanks for your call.

Sincerely  
Gordon Bell  
Prof G H Bell

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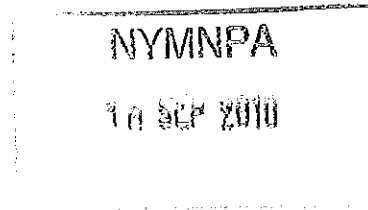


Camellia Cottage  
Link End Road, Corse Lawn, Gloucester GL19 4NN

Mr M Hill  
Development Control Manager  
North York Moors National Park Authority  
The Old Vicarage  
Bondgate  
Helmsley  
YO62 5BP

7<sup>th</sup> September 2010

Planning application NYM/2010/0262/EIA



Dear Mr Hill,

Further to my letter to you of 21<sup>st</sup> May 2010, I note that Moorland Energy has submitted to you a report entitled 'The Importance of the Ryedale Project' in support of its application.

I submit that that report, written by Mr Niall Trimble for the Energy Contract Company Ltd, is of no value to you in assessing the planning application before you.

To assess the importance of the Ryedale Project to the UK it is essential for you to know:

- o how much gas the UK needs
- o how much gas the project will contribute for use in the UK

The report which Mr Trimble has written helps you with neither of these questions.

#### **UK Need**

Since the 1970s the UK has been a major exporter of gas. It still exports large quantities. Moorland Energy, like BG, BP or any other gas producing company, has a right to export the gas it produces. Exporting gas through either of the two large pipelines connecting the UK to the continent is easy, and making this process even easier is part of the EU's process of integrating and liberalising European energy supplies. There is therefore nothing to stop Moorland Energy from exporting some or all the gas it produces when it sees it as its interest to do so. It is intellectually dishonest of Moorland Energy, which reserves its right to export the gas it produces, to argue that by allowing this application you will increase the UK's security of gas supply.

### **Moorland Energy Production**

I have stated in my previous letter to you that the UK uses about 100 billion cubic metres of gas each year and I have provided references to support that figure.

Moorland Energy claim in the Environmental Statement that the project will produce between 425,000 and 566,000 cubic metres per day. This equates to between 0.16 and 0.20 billion cubic metres per year. These are possible maximum rates and are needed in order to size the Gas Treatment Facility. The average production rate over the life of the project, once the initial pressure of the gas reservoir has been released, is likely to be substantially lower. We might assume 0.1 billion cubic metres per year.

In other words, for every £100 spent on gas in the UK, Moorland Energy might, if it decides to sell its gas in the UK, supply around 10p's worth.

I suggest that this level of production is trivial and insignificant in a UK context.

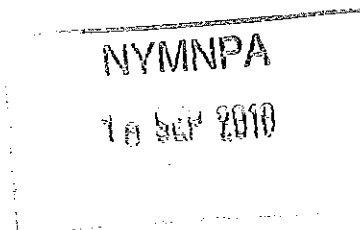
### **Conclusion**

The clear disadvantages of permitting the project – the devastation of a landscape abutting a National Park and the creation within that National Park of an industrial complex – far outweigh any nugatory gains to be derived from the Project.

I therefore have no hesitation in repeating my strong recommendation that you reject this planning application.

Yours sincerely,

J L Gabbott



Camellia Cottage  
Link End Road, Corse Lawn, Gloucester GL19 4NN

Mr M Hill  
Development Control Manager  
North York Moors National Park Authority  
The Old Vicarage  
Bondgate  
Helmsley  
YO62 5BP

20<sup>th</sup> May 2010

Planning application NYM/2010/0262/EIA

Dear Mr Hill,

I write to object to the application for planning permission lodged with you by Moorland Energy Limited in respect of a gas production well and pipeline to be built near to Givendale Head Farm.

The North York Moors are one of the most beautiful parts of Britain and are stringently protected from industrial development by planning laws. Only in the most exigent of circumstances are exceptions to this general rule permitted.

The Applicant has sought to justify his application by suggesting that such circumstances exist. He has painted a picture of a Britain facing an acute gas shortage and in urgent need of increasing its domestic production in order to safeguard supplies.

The arguments he advances to justify this project are based on a dangerous admixture of outdated data, misunderstandings and fantasy. I set out my reasons in the accompanying submission.

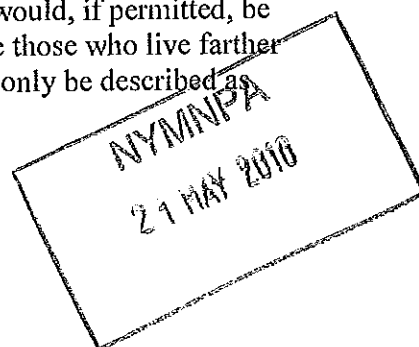
This proposal, which I understand is very unpopular locally, would, if permitted, be harmful to the environment and quality of life locally, deprive those who live farther away of a national treasure, and yet offer a benefit which can only be described as nugatory.

I urge you very strongly to refuse permission.

Yours sincerely,

J L Gabbott

PS If you would clarification of anything I have written, please do contact me.



# **CONSIDERATIONS**

applying to

**Planning Application  
NYM/2010/0262/EIA**

and

**Planning Application  
NY/2010/0159/ENV**

submitted by Moorland Energy Limited

in respect of a

Gas Production Facility at Ebberston well head and a  
Gas Processing Facility at Hurrell Lane



J L Gabbott, MA (Oxon)  
May 2010

## EXECUTIVE SUMMARY

The Applicant is a newly formed company with few assets. It has a small management team under the leadership of its Chief Executive, an experienced accountant.

It wishes to make a development which would have an impact on the environment of the National Park and the area around Thornton-le-Dale. This project is very unpopular both with both local people and visitors who believe that that impact would be adverse and severe.

Development in the National Park is permitted under very stringent, and tightly defined, circumstances.

The Applicant argues that there is an urgent national need for developments of this nature which will help assure Britain its supplies of gas.

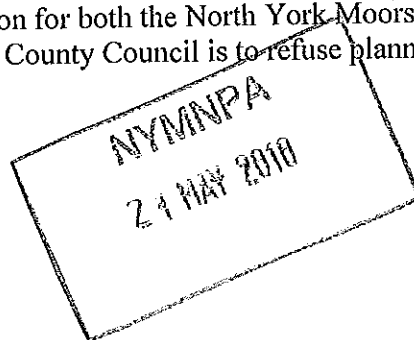
The Government now believes that Britain has a robust and resilient gas supply position in which there is almost no possibility that domestic customers will have their gas supply interrupted and in which industrial and commercial consumers will not suffer any involuntary reduction in supply. National Grid – the UK's licensed bulk gas transporter – iterates the Government's view by stating that the UK has a considerable surplus of gas import infrastructure.

The project would satisfy less than two tenths of one percent of the UK's gas demand and the Applicant has not excluded the possibility that he will export the gas he produces. The benefits of his project in a UK context are insignificant.

The Applicant has said that up to 20 permanent jobs will be created but he has given no details of these jobs: whether they will be full or part-time, skilled or unskilled. Projects of this size are commonly operated unmanned, often on the sea floor. In the absence of details, the Applicant's assurances on job creation should be discounted. If the project is approved, the local tourist industry will be adversely affected.

No details of the profitability of the project have been supplied. Because of the limited resources available to the Applicant, it is very possible that he is financially vulnerable and could go bankrupt. If that were to happen, it is unclear how the land would be reinstated.

In view of the above, the only reasonable action for both the North York Moors National Park Authority and North Yorkshire County Council is to refuse planning permission.



## ABBREVIATIONS

The following abbreviations are used in this submission:

AONB	Area of Outstanding Natural Beauty
BCM	billions of cubic metres (usually per annum)
DCLG	Department of Communities and Local Government
DECC	Department of Energy and Climate change
DTI	Department of Trade and Industry
DUKES	Digest of UK Energy Statistics
ES	Environmental statement
GPF	Gas Processing Facility
LNG	liquefied natural gas
mcm	millions of cubic metres
mcmd	millions of cubic metres per day
NG	National Grid plc and National Grid Gas plc
OFGEM	Office
PSN	Planning, Sustainability & Need Statement
TYS	NG's Ten Year Gas Transport Statement

NYMNP  
21 MAY 2010

## 1. UK GAS SUPPLY

1.1 The Applicant has grossly misrepresented the UK gas supply position. In the following two paragraphs<sup>1</sup> in the Planning Application, he says:

*The need for this project arises because of the UK's increasing reliance on the importation of gas from abroad. From the early 1970's until recently, the majority of the UK's gas requirements were met by the North Sea and the Irish Sea with operators historically providing capacity in their production profiles in order to meet peak demand or unforeseen shortages of supply. As the existing fields have declined in production and gas sales contracts have been re-negotiated, this short-term capacity has largely disappeared. Whilst new pipeline connections between the UK and Belgium, the Netherlands and Norway have been commissioned in this period, these supply routes are essentially base-load capacities unable to cope with periods of abnormally high demand as pipelines are typically operated with little or no spare capacity.*

*The UK's reserves of oil and gas are declining making it a net importer. By 2010 it is estimated that 40-50% of UK gas will be imported, and rising to 80% by 2016. The current projections of gas demand imply that the UK will need to increase its gas import capacity by 15-30% by 2020. This implies a vulnerability to supply interruptions that can be ameliorated to a degree through the exploitation of new gas reserves. The Energy White paper published in May 2007 stresses that there is an urgent need to see significant private sector investment in infrastructure to ensure security of supply for the UK.'*

The above paints a sorry picture of a Britain: its domestic gas production reducing, desperate for every cubic inch of gas it can find, needing to build 15% or even as much as 30% more gas import capacity - failing which the lights would no doubt flicker and die.

1.2 Anyone who reads and believes the above two paragraphs would be delighted to be reassured by the Applicant that the permanent 'effect on gas storage supply'<sup>2</sup> of the completed development will be 'major beneficial' at national, regional, district and local levels.

I believe that this statement is false as to fact and that the assessment of its impact is grossly distorted.



<sup>1</sup> Conclusions and Statement of Significance, paras 19.5 and 19.6

<sup>2</sup> Conclusions and Statement of Significance, Table 19.1

## 2 UNJUSTIFIED ASSERTIONS

The two paragraphs cited above contain various assertions which are incorrect.

2.1 In the first paragraph the Applicant does not explain why a pipeline from a gas field in the British North Sea has been built with spare capacity so that it can act as a swing producer and thus provide gas for UK peak demand whereas pipelines from the Norwegian North Sea - and indeed Belgium and the Netherlands - have been designed to operate at full throttle and cannot provide gas for UK peak demand. There is no reason which I can think of for this anomaly – for none there is.

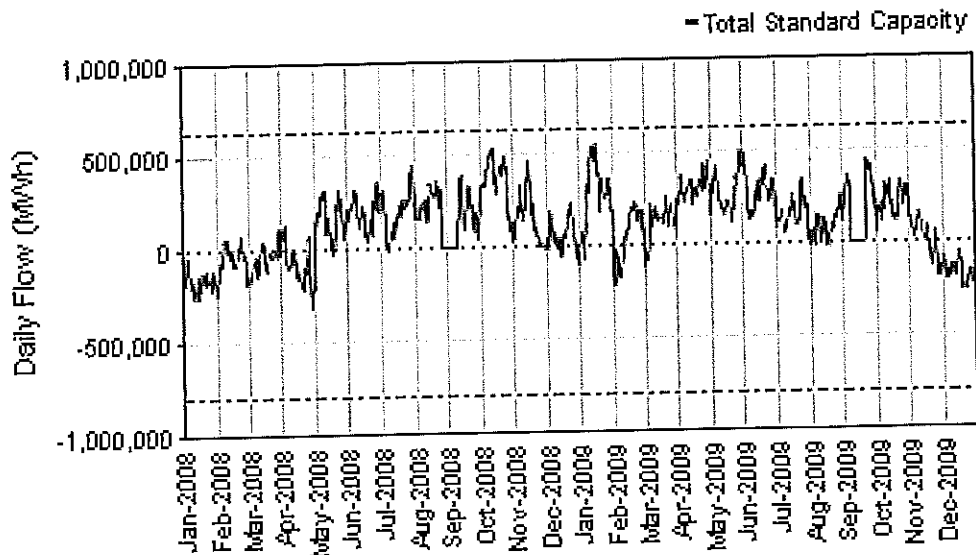
2.2 The Applicant then states unequivocally that the Belgium and Netherlands pipelines are both unable to cope with 'abnormally high' demand<sup>3</sup> and also that these pipelines are typically operated with little or no spare capacity.

### 2.3 The First Paragraph

#### 2.3.1 Belgium

The pipeline between the UK and Belgium is called the IUK, or the Interconnector, and connects Bacton in Norfolk with Zeebrugge.

Below is a graph<sup>4</sup> of volumes transported from 1 Jan 2008 to 31 Dec 2009:



First, the pipeline is clearly operating with a large amount of spare capacity; secondly, there are large swings in the flow, to the extent that, thirdly, it most unquestionably has both positive and negative flows. Why that? The IUK website explains:

<sup>3</sup> It is difficult to comment without knowing what the Applicant means by 'abnormal'. It might, however, be useful to note that a system which would satisfy highly exceptional demand (1 in 100 years?) would be expensive and probably uneconomic.

<sup>4</sup> available from <http://www.interconnector.com/online-services/historic-flows.htm>



*'The ... chart displays net physical flows at the Bacton Terminal. A positive value (for any given day) indicates that gas flowed from the UK to the Continent (UK export), whereas a negative value (for any given day) indicates that gas flowed from Continent to the UK (UK import).'*

The IUK is in fact used primarily as an export pipeline (the purpose for which it was originally constructed) and is now assisting with imports as required. It is difficult to think of anything more typical of the operations of a swing supplier.

The capacity of the pipeline is enormous.. The pipeline, says<sup>5</sup> IUK,

*'is currently capable of transporting 25.5 billion cubic metres of gas per annum from Zeebrugge to Bacton and 20.0 bcm per annum in the opposite direction.'*

This one pipeline – which is not currently operating at capacity - can supply around one quarter of the UK's gas needs.

### 2.3.2 The Netherlands

The pipeline supplying gas from the Netherlands is operated by the BBL Company, so called because the pipeline runs from Balgezand near The Hague to Bacton.

It should be remembered that the Applicant has stated that this pipeline is 'typically operated with little or no spare capacity'.

BBL Company reports on its website<sup>6</sup>

*'BBL Company offers interruptible forward flow capacity (from the Netherlands to the UK). There is no limit on the amount of interruptible forward flow capacity offered.'*

and continues

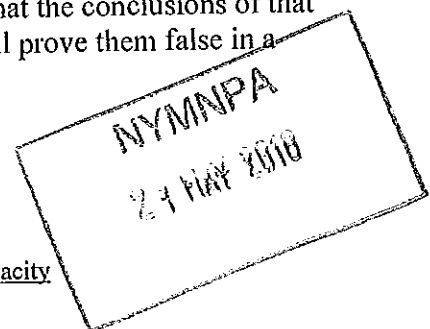
*'Firm forward flow capacity will be available from 1 December 2010 onwards. This concerns firm capacity related to the expansion project for which BBL Company organised an open season in 2007. As not all capacity offered in the Open Season has been contracted, there is still capacity available ...'*

In other words, BBL Company commenced a project in 2007 to expand the pipeline's capacity with effect from 1st December 2010 and, having marketed that capacity for the last three years, finds that it cannot sell it, presumably because there is no need of it.

In summary, the arguments advanced by the Applicant in the first paragraph are shown to be without foundation. But that does not mean that the conclusions of that paragraph are false – merely that they are unproven. I shall prove them false in a moment.

<sup>5</sup> <http://www.interconnector.com/index.html>

<sup>6</sup> <http://www.bblcompany.com/operations/available-transmission-capacity>



## 2.4 The second paragraph

The second paragraph is similarly flawed. The statement that 'By 2010 it is estimated that 40-50% of UK gas will be imported' is a curious way of reporting 2010 at the start of its second quarter. The reality is that this is an old estimate – almost certainly taken from the 2007 White Paper, which states<sup>7</sup>

*'By 2010, imports could be meeting up to a third or more of the UK's total gas demand'*

Some of the contentions of this second paragraph are easily dismissed:

- *'80% imported by 2016'*.  
NG now says<sup>8</sup> around 70% by 2020 (but the exact percentage is irrelevant).
- *'The current projection of gas demand'*:  
is probably a projection made in 2007. I shall give you DECC's 1<sup>st</sup> April 2010 projections at 3.2 below.
- *'the UK will need to increase its gas import capacity by 15-30% by 2020'*:  
NG – who are the UK's sole transporter of bulk gas licensed by the Government and are therefore well qualified to have an informed view - say that we now have a 'considerable surplus'<sup>9</sup> of gas import capacity (and with import capacity equal to 125% of annual demand their statement appears safe from challenge).
- *'This implies a vulnerability to supply interruptions'*:  
three comments:
  - This used to be the position until we had North Sea gas;
  - It is important that we adjust to these circumstances since there is no reason to think that there are large new gas fields to be discovered; and
  - DECC is well aware of all of the above and in fact is rather proud that we have a gas market which is robust<sup>10</sup> and resilient<sup>11</sup> (and we do not import directly from Russia<sup>12</sup> - even though the Applicant would like you to think so<sup>13</sup>).

So that leaves the second paragraph fatally undermined.

2.5 The Applicant makes one statement which I have no difficulty in accepting:<sup>14</sup>

*'The need for new investment in gas projects must, however, be balanced against the impact of the built development on the environment.'*

<sup>7</sup> White Paper 2007, 'Meeting the Energy Challenge' para 4.44 (page 116)

<sup>8</sup> NG TYS, fig 4.8B, (page 72)

<sup>9</sup> NG TYS, 4.1, second paragraph (page 45)

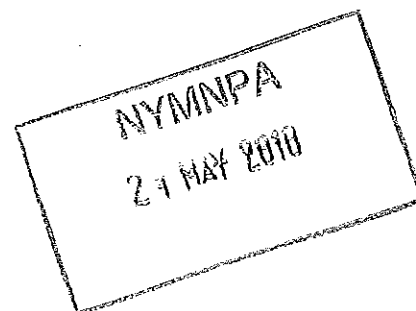
<sup>10</sup> Gas Security of Supply, 4.9

<sup>11</sup> Gas Security of Supply, 4.11

<sup>12</sup> Gas Security of Supply, 2.35

<sup>13</sup> Environmental Statement Non-Technical Summary, Need, para 3: 'Britain ... is becoming increasingly reliant on overseas supplies from places such as the Middle East, and piping it from countries such as Russia'.

<sup>14</sup> Conclusions and Statement of Significance, 19.7



## 2.6 Outdated Reference Documents

The Applicant readily refers to documents issued up to 2007 which support his case but makes few references to documents issued later, where the very strong tendency is to undermine his case.

For example, in preparing his Statement of Need, the Applicant has referred to

- Energy White Paper, DTI, February 2003
- Regional Energy Infrastructure Strategy, Government Office for Yorkshire and The Humber, 2005
- Ministerial statement, 16th May 2006
- Energy White Paper "Meeting the Energy Challenge" DTI 2007

He does not mention:

- |                             |      |                |
|-----------------------------|------|----------------|
| • Response to Malcolm Wicks | DECC | November 2009  |
| • Energy Markets' Outlook   | DECC | December 2009  |
| • Security of Gas Supplies  | DECC | 1st April 2010 |

and he appears unfamiliar with the Digest of UK Energy Statistics (DUKES), and other material produced on the DECC, IUK, BBL and other industry websites. The relatively recent phenomenon of the UK's enormous investment into liquid natural gas (LNG) importing operations, undertaken at a cost well in excess of £1bn, is scarcely mentioned by him.

It could be argued that he should be excused knowledge of the DECC Policy Statement of 1<sup>st</sup> April but many of the facts and trends underlying that document were evident before DECC enunciated them. That Policy Statement had long been expected to be issued on 1<sup>st</sup> April; the Applicant's haste has caused him to be unaware of its contents.

Let us now turn to gas demand in the UK.

NYMMPA  
27 MAY 2010

### 3 DEMAND

#### 3.1 A fundamental misunderstanding

3.1.1 The Applicant would have you believe that there is to be a large increase in demand for gas in the UK. He claims<sup>15</sup>:

*'the need to reduce carbon emissions whilst ensuring secure energy supplies means that for the forcible (sic) future gas will be a primary source of energy in the UK. As natural gas, in particular, is used to generate electricity, the already high demand for the National Gas Transmission System is set to grow at a peak rate of around 2.1% per annum<sup>16</sup> (National Grid, Gas Transportation Ten Year Statement 2009).'*

3.1.2 In the above, the Applicant makes one serious, fundamental error. Whilst it is true that the TYS forecasts a 2.1% per annum increase, it also makes clear that this is in relation to 'peak demand' – formally defined<sup>17</sup> by NG as

*'The 1 in 20 peak day demand is the level of demand that, in a long series of winters, with connected load held at the levels appropriate to the winter in question, would be exceeded in one out of 20 winters, with each winter counted only once.'*

The 2.1% relates to the movement in this one day's demand peak, not the totality of the gas which will flow to users in the year.

The relevant paragraph<sup>18</sup> reads

#### *'3.5.2.2 Peak Gas Demand Forecasts*

*The reduced forecast in annual demand has resulted in a lower forecast of peak gas demand, a key driver for investment in transportation infrastructure. Peak demand is forecast to rise at 0.3% per annum over the forecast period, with NTS demand growing at 2.1% per annum and DN demand falling at 0.4% per annum. The 'spiky' nature of the growth rates is indicative of new CCGT [gas fired electricity generating station] loads connecting to the NTS.'*

If the amount of gas which people use on the coldest day of the year is increasing, it does not follow that more gas is being used throughout the year as a whole. This failure by the Applicant to understand this important distinction renders his description of the gas forecast valueless.

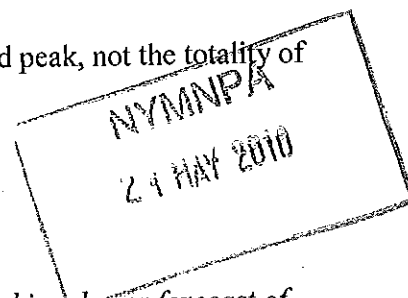
3.1.3 It is a pity that the Applicant had not been more alert – not only in his proof reading but also in his critical analysis of the script in front of him. Had he been so, he should have known that a 2.1% per annum increase over 10 years would have given an increase over the period of 23% and, looking at the TYS chart 5.2 which he provides on page 32 of his PSN, he would have seen that the black NTS demand line starts in 2008 at around 100 BCM, has a fall as has been indicated above, and then rises but, instead of ending the forecast period at 123 BCM as would have been the

<sup>15</sup> PSN, para 5.3

<sup>16</sup> Readers would have expected either 'a peak rate of 2.1%' or '2.1% per annum', but the Applicant inexplicably conflates the two.

<sup>17</sup> TYS, Appendix 6, Industry Terminology, p 159.

<sup>18</sup> TYS, 3.5.2.2 (page 30)



case had there been a 2.1% per annum increase, in fact ends at around its starting value.

### 3.1.4 In fact, what NG says<sup>19</sup> is

*'Total gas demand has been falling since September 2008, with DN [local distribution networks] gas demand reducing by 8% in gas year 2008/9 when compared with the previous year. This trend has continued throughout 2009. From 2008 to 2018, gas demand is projected to fall at a rate of around 0.3% per annum ... Annual gas demand is not forecast to return to 2008 levels during the forecast period.'* [my emphasis]

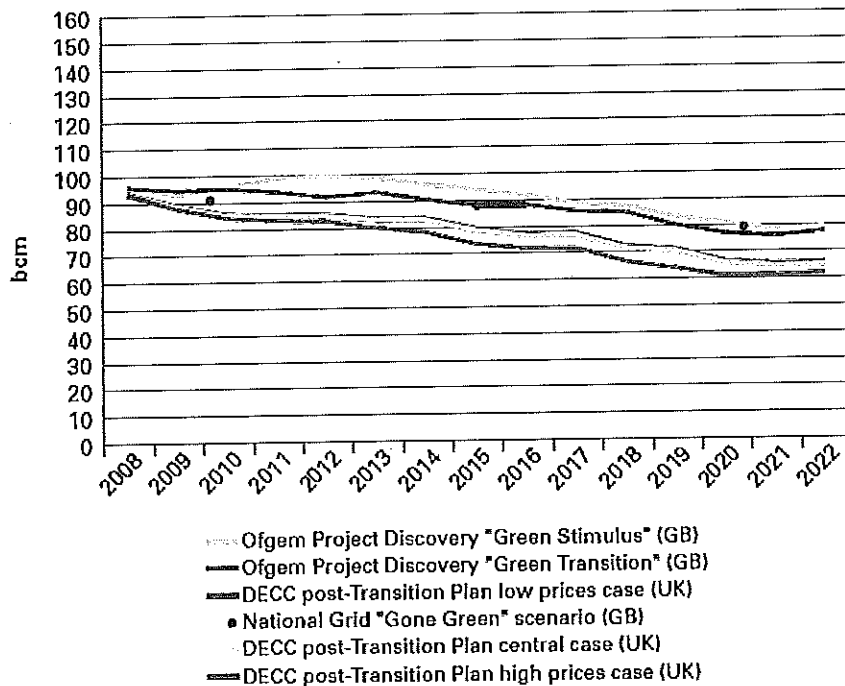
### 3.2 Low carbon economy

It is worth stating that Government policy is that the UK should transit to a low carbon economy. DECC says:

*'This summer [i.e. 2009] the Government set out a range of policies that are expected to help reduce the level of gas demand significantly in the coming years as we make the transition to a low carbon economy'*<sup>20</sup>

and forecasts that demand for gas will decline. It has produced a graph<sup>21</sup> of forecast gas demand:

Chart 5.3: Range of Annual Net Gas Demand Projections assuming Government Carbon Targets are met<sup>68</sup>



Source: DECC (July 2009; consistent with The UK Low Carbon Transition Plan Emissions Projections), National Grid (July 2009) and Ofgem (October 2009).

<sup>19</sup> NG: Ten Year Gas Transport Statement, p7

<sup>20</sup> Energy Markets Outlook, 2009, para 5.2.2

<sup>21</sup> ibidem, Chart 5.3 (page 57)

NYMIPA  
21 MAY 2010

DECC states:

*'DECC's projections show that by 2020 demand falls to some 66 BCM a year compared to around 89 BCM today.'*

3.3 Forecasting the future is difficult and it is not unreasonable that different views should exist.

NG, whose responsibility it is to transport gas, believes that over the next ten years demand will increase but very slowly and to a level below that achieved in 2008. On the other hand, the government has adopted a policy that gas demand should decline quite dramatically and has introduced fiscal and other measures to help promote this.

It may be reasonable to summarise the two positions by saying that over the next ten years demand is not subject to strong upward pressures and may well fall.

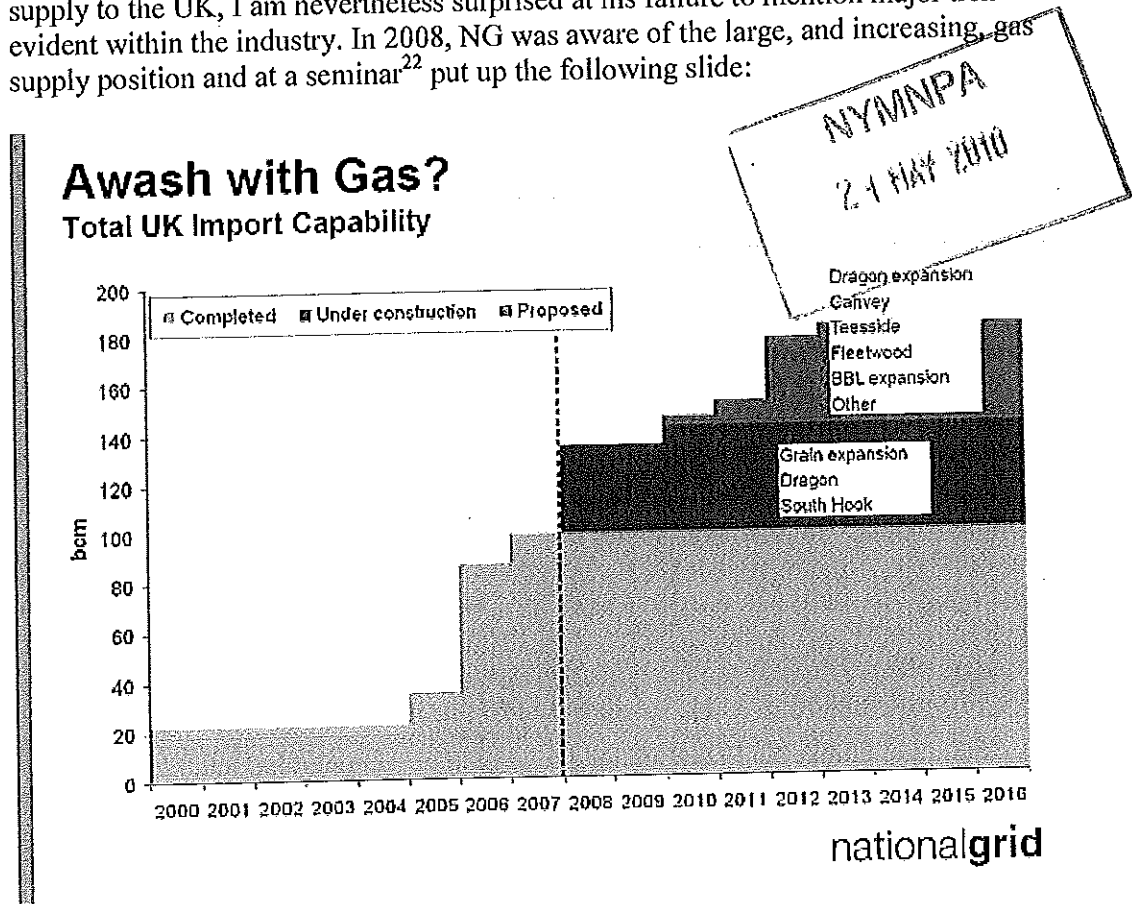
It is a matter for regret that Applicant has sought to persuade you of the opposite.

And now we turn to supply.

NYMNP  
21 MAY 2010

4 SUPPLY

Although the Applicant appears unfamiliar with the most recent information on gas supply to the UK, I am nevertheless surprised at his failure to mention major trends evident within the industry. In 2008, NG was aware of the large, and increasing, gas supply position and at a seminar<sup>22</sup> put up the following slide:



This slide directly contradicts the view being offered more than two years later by the Applicant that the UK is facing a critical shortage of gas supply.

As I have mentioned in para 2.4 above, Britain is in fact in a very strong gas supply position. In the Gas Policy Statement of 1<sup>st</sup> April 2010, DECC states very clearly that Britain has a robust and resilient gas supply position. DECC has stress tested that position and is confident that there is almost no risk that households will experience gas shortages, even under extreme circumstances<sup>23</sup> and that no industrial gas consumer would be deprived of gas involuntarily<sup>24</sup> even in severe and highly unlikely circumstances, for example if a large import terminal such as Bacton – which can import some 200<sup>25</sup> times as much gas as the proposed project will produce – were to fail for a full year.

There is much evidence on gas supply and demand publicly available, and rather than include it in this letter I attach selected quotations from various publications at the Appendix.

<sup>22</sup> NG Presentation by Neil Pullen, UK Gas Operations Manager, 18<sup>th</sup> February 2008

<sup>23</sup> Gas Security of Supply 2.7 (page 17)

<sup>24</sup> Gas Security of Supply, 4.9 (page 39)

<sup>25</sup> Bacton can import 40.5 BCM: 25.5 BCM via IUK as commented on in 2.3.1 above and 15 BCM via BBL; the project's production is initially estimated at around 0.18 BCM.

## 4 THE RELEVANCE OF THE PROPOSAL

### 4.1. Onshore vs Offshore

It is worth obtaining some idea of the relative sizes of Onshore and Offshore production.

Onshore gas production is very substantially lower than offshore. DECC reports<sup>26</sup> that the 2009 production from offshore fields was 69,353,810 thousand cubic metres and from onshore 182,219 thousand cubic metres. In other words, onshore production is one quarter of one percent of offshore. (Government statements, therefore, which are not specifically related to onshore fields tend to be directed towards offshore gas production.)

### 4.2. The Application

The Applicant says<sup>27</sup> that

*'the projected level of gas extraction will be between 425,000 and 566,000 cubic metres per day'.*

and to accommodate the proposed production and processing of this gas he is putting forward the Ryedale Gas Project, a project which incorporates two large processing plants, one being in a National Park, and twin pipelines crossing 8.6 kms of high quality land, a large part of which is also within a National Park. He assesses the effect of this project as 'major' at national level.

In his description of the expected production, the Applicant has presumably neglected to include the word 'maximum' since it is highly unlikely that the project would be abandoned once production had declined below 425,000 cubic metres per day.

A range of 425,000 and 566,000 cubic metres per day would give an annual production of between 0.16 BCM and 0.20 BCM.

The production profile of a gas well often follows an established path: a fast build up to maximum production followed by steady decline as pressure is released and the field moves towards exhaustion.

As an example, I show below the production history of a field chosen at random – that of the gas field Audrey<sup>28</sup>, from 1995 to 2007, in millions of cubic metres. Although the field started with a production of just under 2,000 mcm per annum, production rapidly declined. It can be seen that in most years the production of the field has been at well below half the maximum annual production.

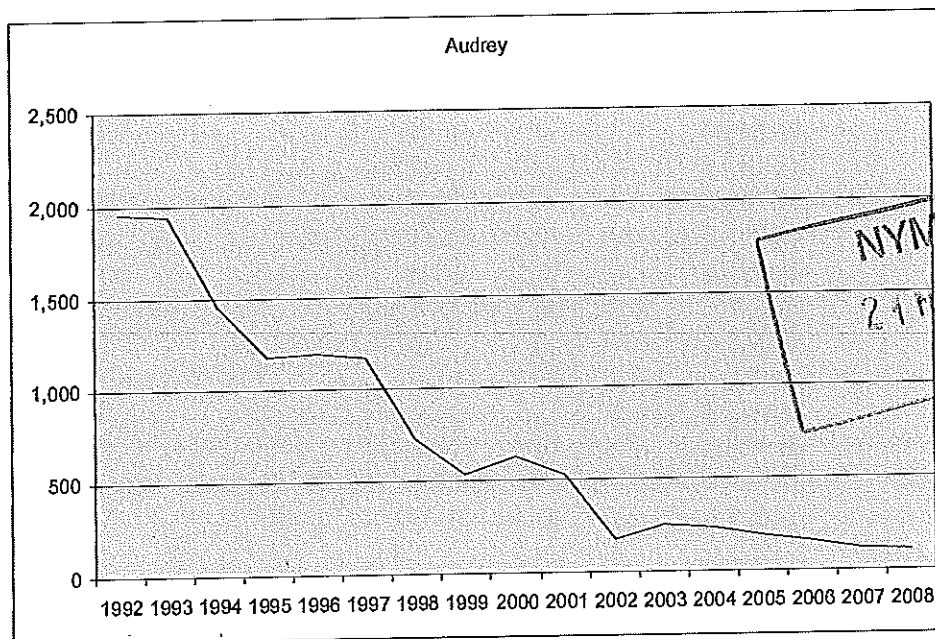


<sup>26</sup> <https://www.og.decc.gov.uk/pprs/pprsindex.htm>

<sup>27</sup> ES, para 2.5

<sup>28</sup> DUKES, Gross Gas Production





As we have seen at 3.1.3 above, the UK consumes very roughly 100 BCM pa. This project would therefore satisfy initially rather less than two tenths of one percent of UK gas demand and then, as production fell, substantially less. Such a contribution can only be described as insignificant.

I believe that by now you will realise that when the Applicant makes statements such as<sup>29</sup>

*'Ensuring that the UK's indigenous resources are used to their full potential is crucial to securing the reliability of energy supplies.'*

in the context of his own proposed production he is making an exaggerated and unjustified claim.

#### 4.3 National Gas Storage

At this point it might be worth dealing with the claim referred to in para 1.2 above that the project was a 'permanent major benefit' to 'national gas storage'<sup>30</sup>.

Firstly, the application is one to produce gas, not store it. I have seen no reference in the application to gas storage equipment, either to be constructed by the Applicant or to be used by the Applicant but already owned by other parties. Secondly, the Applicant at no point in any of the documents explains how the UK's gas storage will be affected, let alone greatly benefited, by this project – and for this one very good reason: it will not be. Thirdly, most people would agree that we probably need more gas storage in this country, although they would not agree on how much; the implication of this is that we can fill more storage than we have available, and therefore it is the storage capacity which is the problem, not the availability of gas.

In seeking to justify the proposal on the basis of improved gas storage the Applicant has shown a fundamental misunderstanding of the nature of his project.

<sup>29</sup> PSN, para 5.17

<sup>30</sup> Conclusions and Statement of Significance, Table 19.1

#### 4.4 A Suggestion

We may speculate that it had been the Applicant's intention to assess the effect of the project not on gas storage in the UK, but on gas production in the UK, or UK security of gas supply, or the UK economy.

4.4.1 If that were the case, I would accept that the satisfaction of any of Britain's gas needs from domestic resources was a potential benefit for the country (but see 4.4.3). However, I would suggest that when the proportion of the need so satisfied is rather less than two tenths of one percent, and is in all probability likely to fall rapidly to a level substantially below that, to describe it as 'major' would be unjustified. I would submit that such a contribution could only be described as insignificant.

This evaluation has an important consequence.

With respect to major developments in National Parks, the Silkin Test ensures that only the most deserving of such development is permitted within them. The Test requires that proposed developments meet three criteria, one of which is that the proposal is in the National Interest. The current proposal, supplying an insignificant proportion of the nation's gas requirement, palpably fails that criterion.

4.4.2 The effect of the project at local level is undoubtedly one of disbenefit. There has been widespread local expression of very heavy disapproval of the project, and not without reason.

Many people, both residents and visitors, will be inconvenienced by the construction of the two plants: noise, lighting in winter, traffic movement. The Applicant has proposed to perform construction work from 7 o'clock in the morning to 7 o'clock in the evening, 7 days a week, for a period possibly measured in years with no intermission even for public holidays.

When the project is complete, all will see from afar the eye-sores thereby created:

##### Wellsite

- a separator, 6.1m in height, to separate any produced liquids from the natural gas;
- facilities for storing and injecting corrosion inhibitor to prevent corrosion of the pipelines, rising to 6.1m in height;
- facilities for storing a quantity of methanol, used to prevent hydrate formation; the Applicant describes this quantity as 'small'<sup>31</sup> even though it amounts to 50,000 litres<sup>32</sup>;
- CCTV tower, 5.25m in height
- various other equipment

and all surrounded by a fence 2.85m in height.



<sup>31</sup> ES, para 4.2

<sup>32</sup> Drawing no 18761948, Rev 1

## Hurrell Lane

a large number of industrial buildings and structures, the tallest of which are:

- Ground flare 15.00m
- Contactor 13.65m
- Gas liquid separator 12.65 m
- Regen gas heater variously cited as being 15.00 m and 15.5 m high<sup>33</sup>

The intrusion on the landscape is even greater at the Hurrell Lane GPF than at the well head. Any suggestion that a disused railway embankment, even if planted with trees, will provide adequate screening is fanciful.

It is my submission that the impact on the environment of both of these developments will be severe and adverse.

4.4.3 The Applicant lays great stress on the fact that the project will support the UK gas supply position. This is disingenuous since he remains entirely free to sell his gas to whomsoever he chooses, whether that customer be in Barnsley, Bournemouth or Berlin.

To make a sale, a gas producer must place the relevant quantity of gas in the NTS where it become mixed up – ‘commingled’ – with the existing gas. There is no requirement that the gas he has provided be transported to his chosen customer; it is sufficient that there be enough gas in the system at the point where the customer requires delivery.

Because we are connected to the continent by pipeline, the system extends to customers in Europe and hence it is as easy to sell to customer in Paris as to one in Pickering.

The responsibility for the physical balancing of gas within the system lies with pipeline operators, such as NG.

Without an assurance from the Applicant as to the destination of the gas he produces, it could be that if you were to allow this application you would find that you were supporting the French or German gas consumer rather than British.

## 4.5 Economic Development

The Applicant asserts – and I believe broadly correctly - that the Government’s energy strategy is to maximise the economic production of our domestic energy sources.

<sup>33</sup> Drawing 18761 901-2 gives 15m and PP-04 Rev B gives 15.5m



In a foreign country where banks give 5% interest on deposits, there are two companies, A and B. These two companies each invest \$100m in a project. Company A makes a return of 1% on its investment, Company B 10%.

Both of the projects are profitable, but only Company B's project is economic.

4.5.1 The Applicant states that the project is 'justified' but he does not define the criteria by which he makes this judgement. In particular, he does not make a specific claim that the project is economic. If the project is not economic, then it would not be a project which the government would seek to encourage. Given the absence of a clear assurance from the Applicant that his project is economic, I submit that it would be unwise to make that assumption.

Indeed, the Applicant does not even claim that the project as described is profitable.

4.5.2 There are reasons to be wary about any claim that the project is either profitable or economic.

- Onshore gas fields have traditionally produced little compared with offshore;
- This Petroleum Exploration and Development Licence has been let only recently; the more attractive licences being sold first;
- The original holder of the licence, Warwick Energy Limited, decided at an early stage to dispose of its interest in the licence;
- The sale price was £1m, a trivial sum in the oil business;
- No oil or gas major has shown an interest in acquiring the licence.

4.5.3 The reason for the Applicant's reticence may be that profitability is to be achieved only if additional reserves of gas are produced. The Applicant proposes to construct a GPF with a capacity of 1.1 mcmd<sup>34</sup> to accommodate his proposed production from the existing well of 0.6 mcmd. It follows that some 0.5 mcmd of GPF capacity will, under the current proposal, remain unused; this cannot but adversely affect the profitability of his project.

4.5.4 Presumably in order to fill that surplus capacity, the Applicant says in his 'News Update' published in Spring 2010 that

*'Moorland Energy plans to drill further gas wells from the existing Eberston wellsite to access other nearby sources of gas'.*

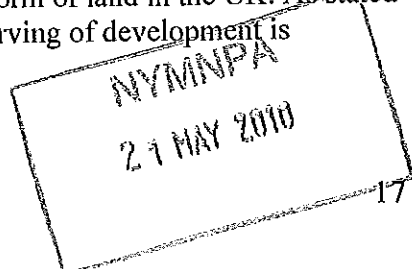
Permission for such drilling has not, as far as I am aware, been granted. Whether the project is profitable or economic without such additional production, only the Applicant knows.

It is, however, axiomatic that the proposal to be determined is the one before you; not one which might develop at some later date.

#### 4.6 The National Park

4.6.1 National Parks are the most highly protected form of land in the UK. As stated above, the Silkin Test ensures that only the most deserving of development is

<sup>34</sup> PSN, para 3.4



permitted within them. That test stipulates three criteria which must be met if development is to be permitted within either a national park or AONB. One of those criteria is that there is no practicable alternative to the development.

In the present application there is an alternative to drilling within the National Park. A technique called directional drilling exists whereby the well, instead of being drilled vertically downwards, is directed sideways. The technique is common. At Wytch Farm in Dorset one such well is producing gas from under the English Channel, some 10 kms from the well site.

It is notable that the Applicant states unequivocally that in respect of the well site he has considered no alternatives.<sup>35</sup>

The Applicant has announced his intention to conduct directional drilling operations but for reasons not stated - but possibly connected with cost - wishes to site his wellhead at the Ebberston wellsite within the National Park.<sup>36</sup>

4.6.2 There are three phases in the development of a gas field: exploration, appraisal and production. Each phase requires a separate planning permission<sup>37</sup>. There should be no presumption in favour of consent for subsequent stages if an earlier stage be permitted<sup>38</sup>.

Given the availability of directional drilling, it is the case that a practicable alternative to drilling in the National Park does exist, and it follows that permission to construct a production well within the Park cannot be justified.

#### 4.7 Hurrell Lane

4.7.1 The Applicant states in his documents *passim* that

*'The proposed area for development of the Facility will cover 2.2 hectares'*<sup>39</sup>

However, he states<sup>40</sup>

*'The Gas Processing Facility will require a compound of 322m x 177m'*

The land which forms the subject of this application for the GPF therefore measures 322m x 177m, which gives an area of 5.7 ha. The Applicant does not explain why he has applied to construct a development on land rather more than two and a half times larger than the area which he says he requires.

It is apparent from the plan of the GPF<sup>41</sup> that the western half of the area on which the facility would be constructed is effectively unused.

4.7.2 The Applicant accepts that there is no need that the GPF be located at Hurrell Lane. He accepts that alternatives to his proposal exist.

<sup>35</sup> ES, para 5.7

<sup>36</sup> See 4.5.4 above.

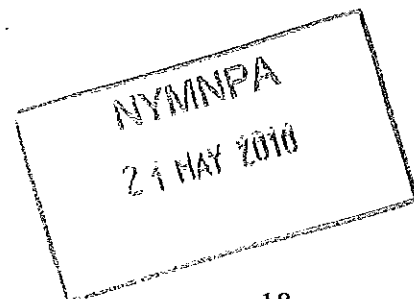
<sup>37</sup> Minerals Policy Statement 1, appendix 4, para 3.2

<sup>38</sup> *ibidem*

<sup>39</sup> e.g. ES Non-Technical Summary, para 3

<sup>40</sup> ES, para 4.17

<sup>41</sup> see for example Design and Access Statement, para 5.41, p 39



## 5 EMPLOYMENT

5.1. The Applicant is vague as to the numbers and type of job which will be created. He claims<sup>42</sup> that

*'On completion, operation of the development would generate employment for approximately 20 workers, including a site manager'*

and he undertakes to create almost half as many apprenticeships. (The number of permanent jobs is elsewhere reported as being '20-25'.)

5.2. Manpower is a significant expense facing a new company and one to which much prior thought is usually given.

It is not clear from the application whether the employment the Applicant says he will create will be of full time or part time jobs. It is not clear whether the people in this newly created work will be employed by the Applicant's company or by an intermediate; or whether they will be contractors. It is not clear whether the jobs will be skilled or unskilled. The Applicant gives no detail, other than that one job is for a 'Site Manager'.

Given the importance which the Applicant appears to believe you attach to job creation in the area, it would have been a relatively simple task for him to provide his intended manning list, describing the jobs he will create: category of job, skills or trade, grade or scale of pay, location and the number of employees required of each but he has chosen not to do so.

5.3 It may be the case that some of these jobs require considerable gas field experience. There may of course be local candidates for such jobs but it is not likely. More likely is that candidates for skilled posts would be brought in from afar, and the proposal would in these circumstances do nothing to alleviate local unemployment but would perversely put pressure on housing.

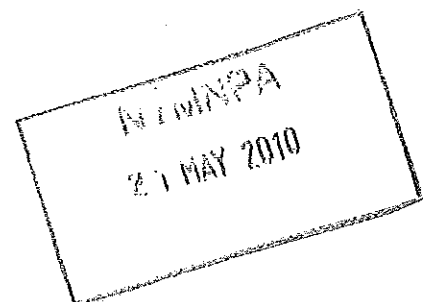
5.4 Small projects of this nature are commonly unmanned. Indeed, many operate on the sea floor or on unmanned production rigs.

What is very likely is that this plant will be highly sophisticated, highly automated and designed to operate for long periods with the very minimum of human input. It is likely that the jobs to be created will be predominantly if not almost entirely unskilled. Where skilled technical assistance is required, it is likely that it will be bought in on an *ad hoc* basis from consultants in other parts of the country.

5.5 Given the paucity of information which the Applicant has provided in relation to any of the jobs to be created, I believe you should treat his claims with considerable caution.

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<sup>42</sup> ES, para 18.38



## LOST JOBS

5.6 It may be the case that some jobs are created but jobs will certainly be destroyed. The elimination of the area of the GPF site as agricultural land will reduce the demand for manpower to farm that land. The harm inflicted upon the environment both at the wellhead and at the GPF will reduce the attraction of the area to tourists – tourists are repelled rather than attracted by gas wells and 50ft high flare stacks. The area lives predominantly from tourism. The National Park is a national treasure available for people wishing to follow out door pursuits. Thornton-le-Dale, one of the prettiest villages in Yorkshire, is a magnet for tourists. To accommodate these visitors, there are many Bed and Breakfast establishments, restaurants, tea shops, bric-a-brac and tourist shops in the area: all will suffer.

The insidious nature of this loss is that much of it will go unseen. Bed and Breakfast owners are not employed and will not register for the dole. Shop owners may continue trading but will make lower profits; in the current difficult economic climate and with discretionary expenditure likely to be squeezed in the coming years, some may go out of business.

The Applicant offers the advantages of employment, uncertain as to number, type and grade. Against those advantages must be weighed the very certain disbenefits which will accrue from the impoverishment of the area as a tourist destination.

NYMNP  
21 MAY 2010

## 6 THE APPLICANT

I have some concerns about the Applicant.

6.1. The Applicant is a new company funded by venture capitalists and set up principally to undertake this project. He has effectively no assets and his borrowing capacity is constrained. It is not clear to what extent his shareholders and lenders would support him.

6.2 There is a very real possibility that the project could become unprofitable: initial costs of the project could be greater than expected; the price at which he sells his gas and both the quantity of gas produced and the rate of production of that gas could all be lower than he expects. As a company with no financial reserves, it would be difficult for the Applicant to accept such losses without shareholder support.

6.3 Indeed, if events were to conspire in a manner such that the Applicant went bankrupt – and a very large proportion of new start-ups fail – there is a very clear possibility that there would be no cash available to reinstate the land<sup>43</sup> on which he had built his well or the GPF. Few buyers would wish to take on an unprofitable gas well of which the value was possibly negative because of the attached duty to reinstate the land.

6.4 The Applicant's main office (as advertised on the internet) is in a serviced office block in Guildford where the owner lets out offices by the day or the hour. I telephoned that number on two occasions, a week apart, and on both occasions the line had a fault.

6.5 The United Kingdom Onshore Operators' Group is the organisation for companies exploring for and producing crude oil and natural gas onshore in the United Kingdom. Shell UK is a member; the Applicant is not.

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<sup>43</sup> This risk could be addressed by the Applicant furnishing a Bank guarantee, but this is likely to be a cost for which he has not been budgeted and which may ironically precipitate the risk it is designed to mitigate.



7 PRECEDENT

You may wish to be aware of Appeal APP/P1615/A/06/2029294 where NG applied to build a gas plant – a pressure reduction installation, smaller in many ways than the plant which you are now considering - in an ordinary, tranquil rural location, but not one with any special land status and with no pretensions whatsoever to the very special AONB or National Park status enjoyed by the NYM National Park.

NG said that the pressure reduction installation was to take up to 20% of the UK's gas supply.

The local planning authority refused permission. National Grid appealed, and the Secretary of State found that there was an urgent national need for the plant – this was in 2007 – but that the urgent national need was outweighed by the harm which would be done to the countryside, and he dismissed the appeal.

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21 MAY 2018

## 8 SUMMARY

8.1 The Applicant proposes to build a gas production well and a GPF. He claims that the project is justified but does not state his criteria and does not specifically claim that it is either profitable or economic.

8.2 The Applicant maintains that his project will have a major beneficial impact on gas storage in this country, but in fact it will have none.

8.3 All parties agree that the sites for the well and the GPF facility are in one of the most beautiful parts of Britain and that harm would be caused to the environment. The Applicant assesses that harm as moderate whereas I, who live afar and yet treasure the National Park and frequently visit the surrounding area, find it severely intrusive. My view is shared by many people who live both locally and further afield.

8.4 The Applicant wishes to produce gas from a well within the National Park. Such a development requires specific planning permission which may be granted under the Silkin test only if no practicable alternative exists; such an alternative, in the form of directional drilling, does exist and therefore the Silkin test is failed.

8.5 The Applicant maintains that he has concerns for the supply of gas to this country which his project will help mitigate and that his project is therefore in the National Interest.

The quantity of gas to be produced is negligible. The UK government says that we have a robust and resilient gas supply position and NG confirms this view by adding that we have a considerable surplus of gas import infrastructure.

The project is therefore not in the National Interest and planning permission for the development in the National Park cannot therefore be granted.



## 9 CONCLUSION

Our countryside, and especially the most glorious countryside which you have in Yorkshire, is a most marvellous asset. It is worth preserving – indeed the Government believes that even ordinary countryside should be preserved for its own sake.

The application before you invites you to give permission for the construction of two enormous industrial complexes in tranquil rural countryside. Such complexes would be foreign and alien.

It is accepted that gas has been proven to exist at the site, and that it is recoverable. If it were recovered, the benefit to the country would be insignificant but the disbenefits to those who live in the area and come to it as visitors would be enormous.

On the basis of the evidence put forward to you by the Applicant, I believe it would be unconscionable of you to permit the disfigurement of the National Park for benefits which are but nugatory.

I strongly urge you to have the courage to recommend refusal of planning permission.

J L Gabbott  
May 2010

NYMNP  
21 MAY 2010

## EXTRACTS

In order to assist you gain a fuller appreciation of gas supply and demand in the UK, extracts from three important documents are attached:

### **GAS SECURITY OF SUPPLY**

**RESPONSE TO THE MALCOLM WICKS' REPORT 'ENERGY SECURITY:  
A NATIONAL CHALLENGE IN A CHANGING WORLD'**

**OFGEM: OPERATION DISCOVERY**

Paragraph numbering is that appearing in the original document.



## EXTRACTS FROM 'GAS SECURITY OF SUPPLY'

**Improvements have been made since 2005**

**E.12** The Government, working with Ofgem, has taken steps to facilitate increased investment in domestic gas infrastructure and to improve market signals:

- **facilitating a substantial increase in import capacity.** There has been a 500% increase in the UK's gas import capacity in the last decade, the majority of which has been built since the winter of 2005/06. Our infrastructure is now capable of importing around 125% of annual gross demand. This allows the UK to import gas from a wider range of sources and to increase gas flow in response to high demand.

**Risks to gas security are very low up to 2020 and beyond**

**E.19** High annual demand projections can be met up to 2020 and beyond, by existing import capacity and projected supply from indigenous resources. 2020 peak demand can also be met by capacity that is existing or under construction. After 2020, planned infrastructure would provide sufficient capacity to supply the highest peak demand scenarios, even if only a minority of the planned projects succeeded in coming to market. (The highest scenarios assume that carbon targets are not met and that gas demand is higher than expected.)

**1.7** Recent projections from the Government suggest that UK gas demand will fall through to 2020 (see Figure 1c). This is due to:

- an increase in the use of renewable energy. The measures in the renewable energy strategy could enable 12% of our heat to be generated from renewables, and more than 30% of our electricity;
- an increase in energy efficiency, for example in more efficient domestic boilers or better insulated homes; and
- the short term effects of the economic downturn, that have led to a depression in recent demand.

**1.10** There will also be downward pressures on UK gas demand, as the UK continues its transition to a low carbon energy system. The use of gas for domestic and commercial space heating will almost certainly decline. The level of renewable electricity generation will increase dramatically and replace unabated fossil power stations. However, as we approach 2050, it is much less certain what our energy mix might be, or how much gas we will still be using.

**1.13** Historic and projected domestic gas demand and production are shown in Figure 1c below.

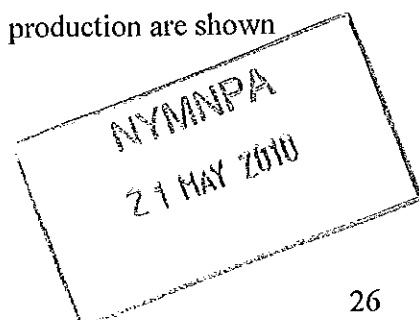
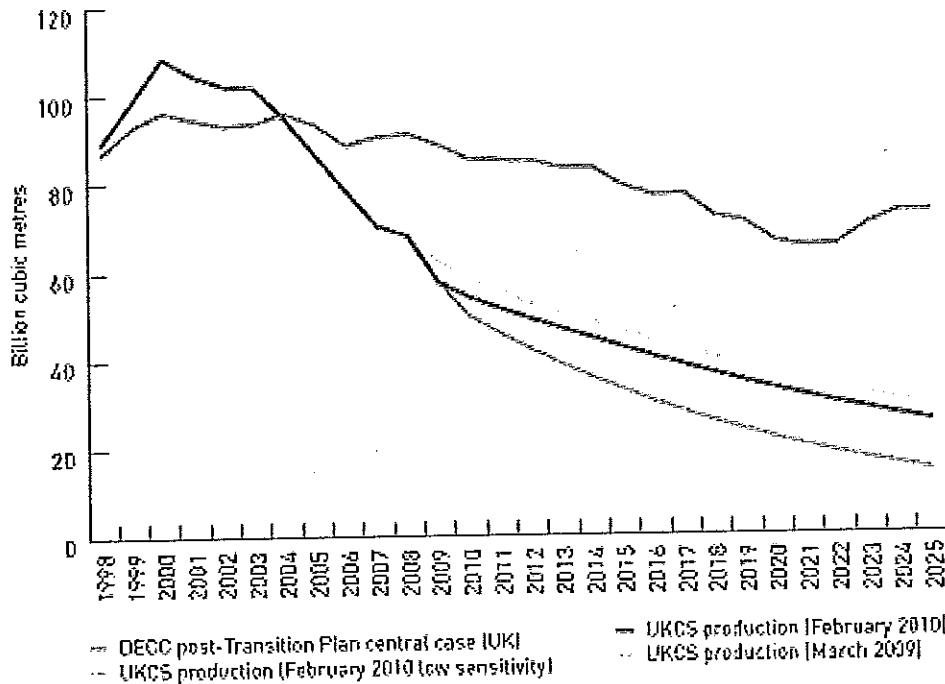


Figure 1c: Actual and projected UK annual net production and demand 1998-2025<sup>1c</sup>



### Defining gas security

2.6 This report explores existing and future gas security of supply. Gas security has two key elements:

- **physical security:** avoiding involuntary physical interruptions to consumption of energy (i.e., the lights going out or gas supplies being cut off); and

- **price security:** avoiding unnecessary price spikes due to market failures, whilst recognising that price movement is a necessary part of the working of the market.<sup>21</sup> Price security means avoiding circumstances in which price volatility interrupts supply in an unplanned way with wider macroeconomic impacts. It should be noted however, that in this context, price security is related to customers' willingness to pay, rather than to physical interruption as such.

2.7 Our analysis suggests there is almost no risk that households will experience gas shortages, even under extreme circumstances. Domestic consumers are prioritised, whilst industrial consumers provide flexibility by opting for interruptible contracts or reducing their demand in response to changing wholesale gas prices. The issues in this report therefore relate to industrial consumers and power stations.

2.21 Demand on a typical winter day can now be met through imports alone, without using indigenous gas or supplies from storage. Import capacity can deliver around 125% of annual demand or 340 bcm per day. There has been a 500% increase in our gas import capacity in the last decade. At the start of this winter, UK import capacity was over three and a half times that which was available during the winter of 2005/06.

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Table 2b: Summary of increases in import capacity since October 2005<sup>28</sup>

Item	Type	Period (start/end)	Incremental capacity (bcm)
IUK (import mode) <sup>29</sup>	Interconnector (Belgium)	2005/06 to 2007/08	17 bcm
Teesport	LNG	2006/07	4 bcm
BBL	Interconnector (Netherlands)	2006/07 to 2007/08	15 bcm
Langeled	Pipeline (Norway)	2006/07	25 bcm
Tampen Link	Pipeline (Norway)	2007/08	10 bcm
Isle of Grain <sup>30</sup>	LNG	2008/09	9 bcm
South Hook <sup>31</sup>	LNG	2008/09	10.5 bcm
Dragon	LNG	2008/09 to 09/10	6 bcm
Total			96.5 bcm

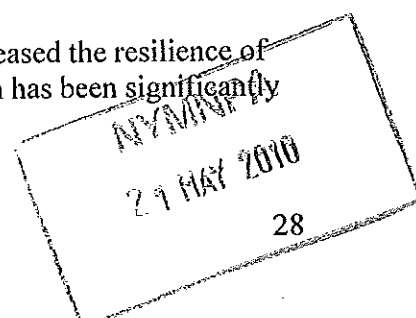
### Lessons from the winter of 2005/06

3.2 In the winter of 2005/06, gas supplies in the UK market were at times tight. This situation arose from the following external and domestic factors:

- Before the winter even began, hurricanes Rita and Katrina reduced US oil/gas production. The US increased imports of LNG to compensate and this led to increased pressure on global LNG supplies, and, in turn, to limited supplies of LNG arriving to the UK market.
- Levels of surplus import capacity for the UK were relatively low. This was partly due to some infrastructure projects coming to market later than expected and partly to a sharper than expected fall in UKCS supplies. Maintenance work on several UKCS fields further reduced supply.
- In the first half of the winter, continental markets did not respond effectively to price signals from the UK market. There were periods when, despite clear price signals, flows into the UK through the interconnector with Belgium were not seen.
- The UK's major gas storage facility, Rough, became unserviceable in February 2006, leading to record spot prices for gas on the National Balancing Point. During this time a Gas Balancing Alert was called. At this late stage in the winter the pre-liberalised continental markets were more responsive to price signals. In response, imports to the UK through the interconnector reached record highs during another cold period across North West Europe in March 2006.

### Winter 2009/10

3.5 Improvements made over the past few years have increased the resilience of the system substantially. The UK's security of supply position has been significantly



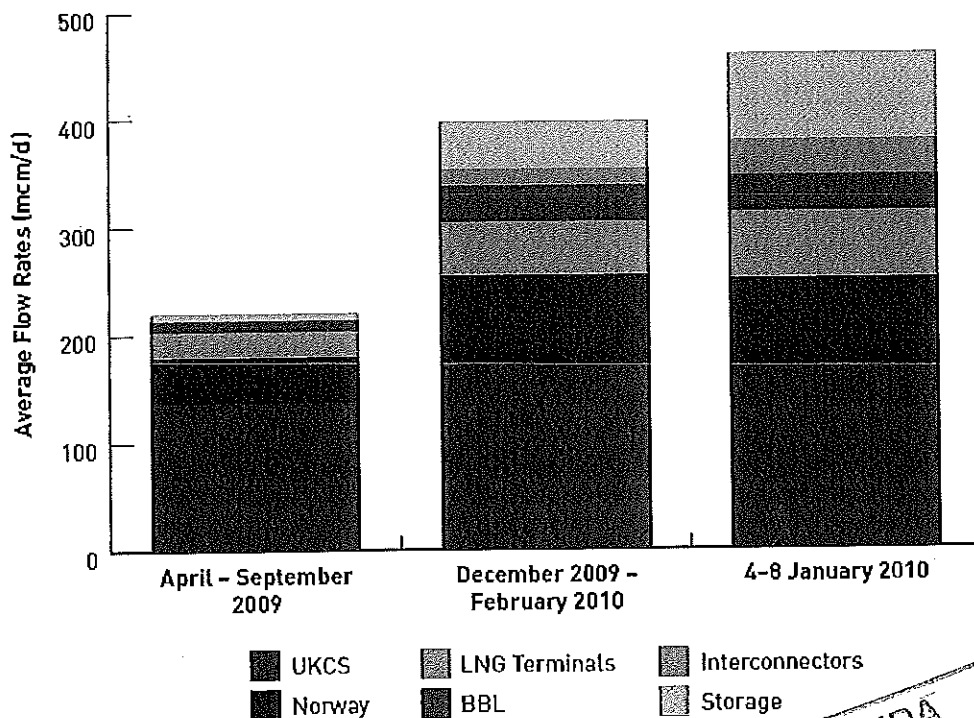
more favourable in 2009/10 than it was in 2005/06, despite very difficult circumstances:

- The UK experienced one of the coldest winter periods for many years. Provisional analysis suggests that temperatures between mid- December and the end of February were on average the lowest since the winter of 1978/79.45 Notwithstanding this, the UK gas market demonstrated high levels of resilience.

- As a consequence of the cold weather, gas demand was very high. During the cold snap in early January, demand remained consistently above 400 mcm for twelve successive days. This is well above the 330-350 mcm associated with a typical winter's day. Demand for gas also surpassed the previous record for gas demand, peaking at 465 mcm on 8 January 2010.

**3.10** Historically, supplies at times of peak demand have been provided by UKCS gas or from storage. However, this winter, supplies from all sources reacted in response to alleviate market tightness. Supplies from UK LNG terminals and pipelines from Norway and mainland Europe provided more 'swing supply' than storage and UKCS swing combined. Figure 3b illustrates how the supply composition changed during this time.

Figure 3b: Comparison of gross supply composition over different time periods<sup>53</sup>



Supply to 2020

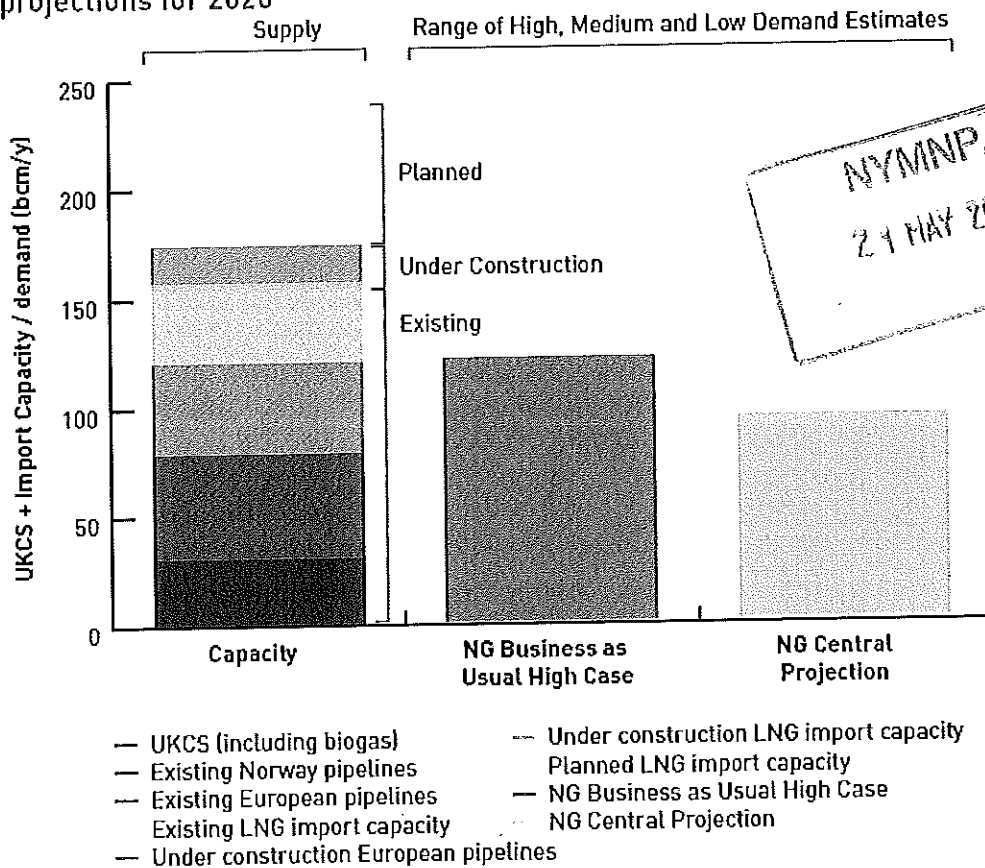
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4.2 Figure 4a shows a range of annual demand projections compared to projected UKCS production in 2020, in addition to existing import facilities, and those planned and under construction.

4.3 There is ample capacity within the system to supply our gas needs up to 2020 and beyond. Even with the expected falls in UKCS production, our current capacity is sufficient to meet high demand projections. This is due to the large increase in import capacity experienced in recent years.

Figure 4a: UK Indigenous supply, import capacity and demand projections for 2020<sup>63</sup>



#### Assessing the resilience of the system

4.8 DECC carries out periodic assessments of possible risks, to test the robustness of the gas market under different scenarios. Provisional conclusions from the most recent 'stress tests' analysis are summarised below. This looked at a number of extreme and highly unlikely combinations of events, at 5-year intervals:

- Case 1 – loss of GB's largest gas storage facility for a whole year including a severe winter;
- Case 2 – loss of GB's largest terminal for a whole year including a severe winter;
- Case 3 – loss of GB's largest source of imports for a whole year including a severe winter; and

- Case 4 – combined shock for a whole year (for example, loss of the Bacton terminal and loss of Russian gas through Ukraine), including a severe winter.

4.9 Although these scenarios are extreme, and highly unlikely to arise, the analysis suggested that the gas market is robust to them. Table 4c summarises the range of stress tests. None of these scenarios would result in shortages of gas that would necessitate involuntary interruptions to industrial consumers.

Table 4c: Summary of stress test scenarios

Scenario	Weather	Stress test			
		2011	2012	2013	2014
Largest storage loss	Severe winter	No Rough	No Rough	No Rough	No Rough
Largest terminal loss	Severe winter	Bacton terminal	Sleipner platform (Norway)	Milford Haven terminals	Milford Haven terminals
Loss of largest source of Imports	Severe winter	Ukrainian transit gas <sup>73</sup>	Ukrainian transit gas	Qatari liquefaction capacity	Qatari liquefaction capacity
Combined shock	Severe winter	Bacton terminal and Ukrainian transit gas	Sleipner and Ukrainian transit gas	Milford Haven and Qatari liquefaction capacity	Milford Haven and Qatari liquefaction capacity

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**EXTRACT FROM 'RESPONSE TO THE MALCOLM WICKS' REPORT  
'ENERGY SECURITY: A NATIONAL CHALLENGE IN A CHANGING  
WORLD' '**

**Government response to recommendations in respect of reducing risks  
associated with hydrocarbon importation**

66. Even with the development of low carbon technologies and activity to reduce emissions, for many decades to come the UK will continue to require both oil and gas to meet its needs in transportation, industry, heating and power generation. A combination of policy measures is forecast to reduce gas demand by some 30 per cent over the period to 2020, but production will continue to decline, increasing the proportion of gas which we will need to import.

75. The Review highlighted the risks arising from increasing dependence on imported gas in an uncertain world. The Government continues to test the system with periodic risk assessments, including the impact of external risk events. The most recent assessment tested a number of scenarios, including:

- a loss of the UK's largest gas storage facility for a whole year, including a severe winter;
- a loss of the UK's largest gas import terminal for a whole year, including a severe winter;
- a loss of the UK's largest source of imports for a whole year, including a severe winter; and
- combined shock for a whole year (for example, loss of Bacton terminal and loss of Russian gas through Ukraine), including a severe winter.

76. The conclusion was that our gas system is highly resilient. The assessment is summarised in detail in the Government's Gas Security of Supply Policy Statement.

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27 MAY 2010

## **OFGEM: OPERATION DISCOVERY**

This document [issued on 4<sup>th</sup> February 2010] updates and extends the scenario analysis and stress testing that we described in our October publication for Project Discovery. It is an accompanying document to Project Discovery: Options for delivering secure and sustainable energy supplies. The purpose of Project Discovery is to examine the prospects for secure and sustainable energy supplies over the next 10-15 years. We have made changes to reflect new information and feedback received through the consultation responses. Gas demand has reduced across the scenarios to account for the impacts of higher fuel prices, higher domestic energy efficiency and slower economic growth than expected.

### **Scenario analysis**

The Discovery scenarios represent a series of diverse, but plausible and internally consistent futures for testing current arrangements and future policy measures. They do not represent forecasts, and many other plausible outcomes can be envisaged. This section provides a short summary of the scenarios and key changes in our current results compared to what we presented in October. The main driver of the lower CO2 emissions and consumer bills compared to our previous results is the reduction in gas demand forecasts. In Dash for Energy, this change to gas demand means that the increase in domestic consumer bills is estimated at about 52% by 2016 (as opposed to the previous estimate of about 60%), which is equivalent to £100 less each year in absolute terms.

**1.8.** The charts have changed to reflect National Grid's lower demand forecasts from the latest TYS, which have been used as the basis for our starting assumptions, which lowers total supply in all scenarios. As LNG is assumed to be the swing supply source over the medium to long term, the volume of LNG imports is now lower.

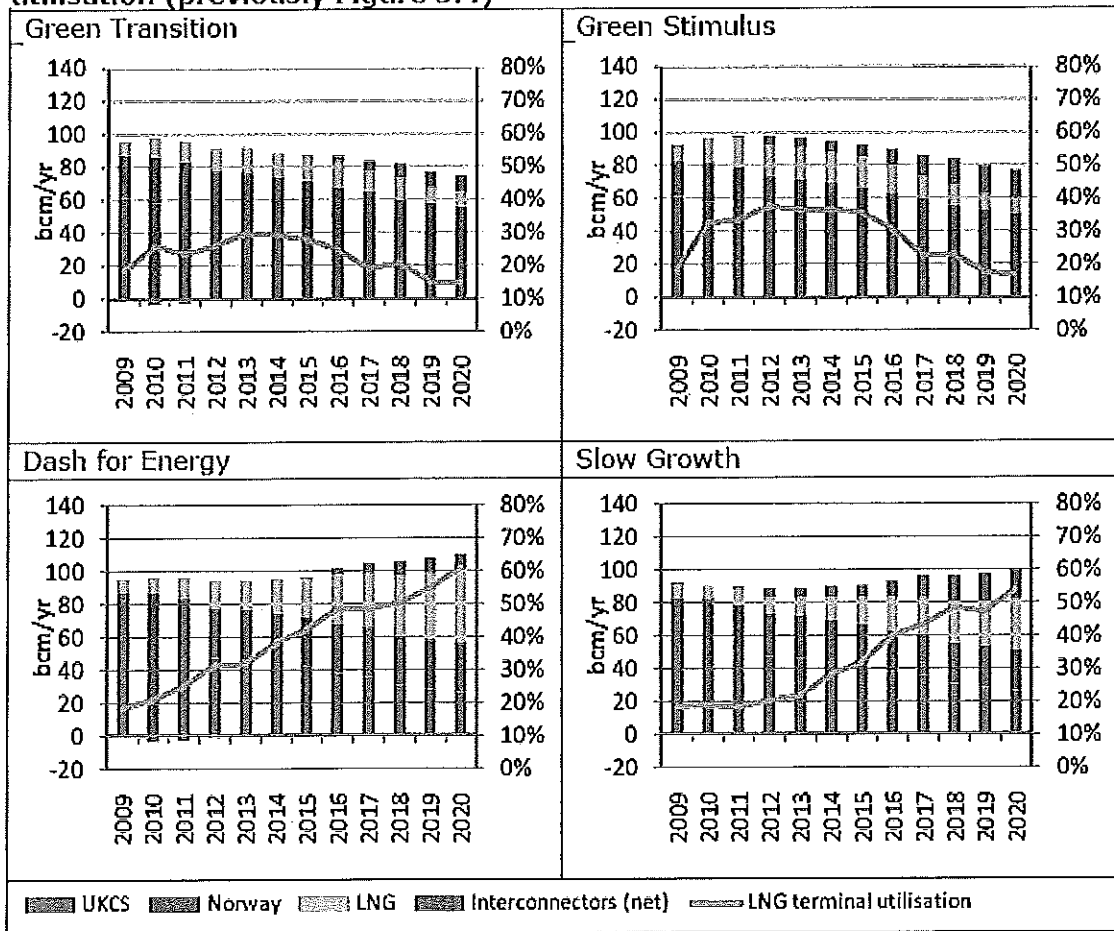
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Figure 1: Scenario overview and key revisions

<b>Scenario Overview</b>	
<b>Green Stimulus – a recap</b>	<b>Green Stimulus – a recap</b>
<p><b>In this scenario...</b></p> <ul style="list-style-type: none"> <li>• There is a rapid economic recovery and significant new investment globally</li> <li>• A global agreement on tackling climate change is reached</li> <li>• Energy efficiency measures are effective</li> <li>• New nuclear and CCS demonstration projects come on-line before 2020</li> <li>• Gas prices are moderate, carbon prices are high, and coal prices are relatively low as demand is suppressed by the high carbon prices</li> <li>• GB gas demand falls but electricity demand grows on the back of wider deployment of heat pumps and electric vehicles</li> </ul>	<p><b>In this scenario...</b></p> <ul style="list-style-type: none"> <li>• There is a slow recovery from recession and restricted availability of finance</li> <li>• A global agreement on tackling climate change is reached and governments implement 'green stimulus' measures</li> <li>• Energy demand falls globally in the near term</li> <li>• Fuel prices are relatively low</li> <li>• The combination of relatively high carbon prices and direct government support to nuclear, CCS and large scale renewables promote rapid decarbonisation of the generation sector</li> </ul>
<p><b>Key revisions</b></p> <ul style="list-style-type: none"> <li>• Total investment costs between 2009-2020 have reduced to £194bn instead of the £200bn reported in October.</li> </ul>	<p><b>Key revisions</b></p> <ul style="list-style-type: none"> <li>• Carbon dioxide emissions from the electricity and gas sectors: down 46% from 2005 levels as opposed to 43% previously reported in October.</li> <li>• Domestic consumer bills: increase by 13% by 2020 as opposed to 14% previously reported in October.</li> </ul>
<b>Dash for Energy – a recap</b>	<b>Slow Growth – a recap</b>
<p><b>In this scenario...</b></p> <ul style="list-style-type: none"> <li>• Global economies bounce back strongly</li> <li>• Security of supply concerns prevail over environmental concerns: there is no global agreement on tackling climate change</li> <li>• Gas supply is tight and fuel prices are high</li> <li>• Investment is forthcoming but not always timely</li> <li>• Significant expansion of CCGT generation capacity</li> <li>• Planning and supply chain constraints prevent new nuclear plant becoming operational before 2020</li> <li>• Planning delays push back storage investment</li> </ul>	<p><b>In this scenario...</b></p> <ul style="list-style-type: none"> <li>• Impact of recession and credit crisis continues</li> <li>• Low levels of investment</li> <li>• Low commodity and carbon prices, reducing incentives for renewables, nuclear and CCS</li> <li>• Generation build is dominated by CCGTs</li> <li>• Energy efficiency measures have limited impact but demand is low initially due to slow economic growth</li> </ul>
<p><b>Key revisions</b></p> <ul style="list-style-type: none"> <li>• Carbon dioxide emissions from the electricity and gas sector: down 14% from 2005 levels. This is higher decrease than the 12% previously reported. This is still insufficient to meet targets.</li> <li>• Domestic consumer bills: rise with high and volatile commodity prices, increasing by nearly 52% by 2016 before falling back. In October this increase was at 60%.</li> </ul>	<p><b>Key revisions</b></p> <ul style="list-style-type: none"> <li>• Carbon dioxide emissions from the electricity and gas sector: down 19% from 2005 levels. This is higher than the 18% reported in October. This is still insufficient to meet carbon budgets.</li> <li>• Domestic consumer bills: relatively low in early years but increase by 19% by 2020 as market tightens. This is a reduction from the 22% reported in October.</li> </ul>

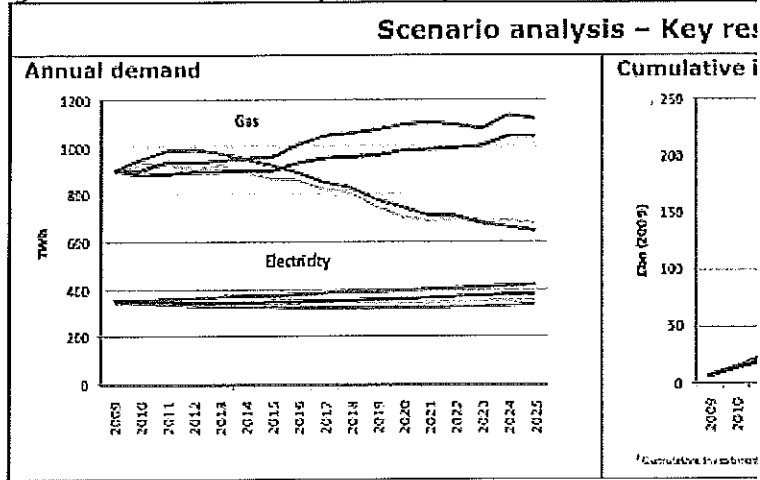
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**Figure 1.2: Annual GB gas supplies and LNG regasification terminal utilisation (previously Figure 3.4)**



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24 MAY 2010

Figure 2: Scenario analysis – key revised results



Green Transition Green Stimulus Dash for Energy

