

## **APPENDIX 1.1**

### **SCREENING OPINION**



North

Yorkshire County Council

Business and Environmental Services

David FYI. Should I sign or you? John!

Mr J Dewar  
Viking UK Gas Ltd  
Knapton Generating Station  
East Knapton  
Malton  
N. Yorkshire  
YO17 8JF



**Planning Services**

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Contact: Alan Goforth

Your ref:  
Our ref: NY/2011/0384/SCR

23<sup>rd</sup> December 2011

Dear Mr Dewar

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2011: REG 5

SCREENING OPINION FOR THE EXPANSION OF THE EXISTING VIKING UK GAS PROCESSING FACILITIES TO ALLOW GAS TREATMENT AT KNAPTON, TOGETHER WITH THE CONSTRUCTION OF ADDITIONAL GAS AND LIQUID PIPELINES BETWEEN THE EBBERSTON MOOR FIELDS AND THE PLANT AND PROPOSED TREATED GAS LINE BETWEEN THE KNAPTON PLANT AND THE HIGH PRESSURE NATIONAL TRANSMISSION SYSTEM ON LAND AT KNAPTON GAS STATION, CLAYPIT PLANTATION, EAST KNAPTON ON BEHALF OF VIKING UK GAS LIMITED

I refer to your request dated 18 October 2011 in connection with the above proposal together with the additional information which was received by email on 9 November 2011. In accordance with the above Regulations, North Yorkshire County Council is required to adopt a "Screening Opinion" to establish whether a planning application with respect to the above development should be accompanied by an Environmental Statement.

The development has been considered on its own merits and on the basis of what is being proposed by Viking UK Gas Limited, the proposed development would be included under Schedule 1 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011. Therefore, under the powers delegated to the Head of Planning Services, this letter therefore confirms that the County Council is of the opinion that the proposal constitutes EIA development and any future planning application should be accompanied by an Environmental Statement. I have enclosed a copy of the signed delegated letter which explains why the County Planning Authority considers the proposal to be Schedule 1 development.

I trust that this answers your screening request although should you wish to amend any aspect of the proposed scheme, then I would advise that you request another screening opinion. If you have any queries arising from the above, please do not hesitate to contact me.

Yours sincerely

Alan Goforth  
Development Control Officer (East)





North

Yorkshire County Council

Business and Environmental Services

Your ref:

Our ref: NY/2011/0384/SCR

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23<sup>rd</sup> December 2011

**ITEM TO BE DEALT WITH UNDER THE SCHEME OF DELEGATION**

(nycc ref:NY/2011/0384/SCR)

**Request for a screening opinion in respect of the expansion of the existing Viking UK Gas processing facilities to allow gas treatment at Knapton, together with the construction of additional gas and liquid pipelines between the Eberston Moor fields and the plant and proposed treated gas line between the Knapton plant and the high pressure National Transmission System at Knapton Gas Station, Claypit Plantation, East Knapton (Thornton Dale and The Wolds Electoral Division - Ryedale District)**

**Background**

The existing gas processing plant and power generation facility at Knapton occupies a compact site in a rural location to the north east of Malton, North Yorkshire. The site benefits from mature landscaping on all sides which obscure views into the site from an external ground level position. The small villages of East Knapton and West Knapton are approximately 1km to 1.5km south west of the site.

The surrounding land is primarily in agricultural use (both arable and pasture). The nearest residential property to the KGS site is at Ochre Farm, West Knapton 0.5km to the north-east and Guild House Farm, East Knapton 0.8km to the south-west of the site. The Maltings industrial site is approximately 2km to the west of the site and due to its scale is the most visible feature within the rural landscape. A bridleway (Public Right of Way no. 25.81/8/1) is approximately 280 metres from the site and runs to the west and north of the site.



The existing Knapton Gas Station site does not fall within, or in close proximity to any 'sensitive areas' (SSSI, SPA/SAC, SINC, RAMSAR, AONB) or Article 1(5) land (Conservation Area), Listed Buildings or Scheduled Ancient Monuments.

UK Energy Systems Ltd (UKES) is the company which owns the wells, gas plant and power facilities in and around Knapton. UKES has two main operating subsidiaries- Viking UK Gas Ltd and RGS Energy Ltd. Viking owns the VoP gas fields whereas RGS owns the production infrastructure and the gas turbine power plant at KGS. Third Energy acquired UK Energy Systems Ltd (UKES) in July 2011.

Viking UK Gas Ltd operates an Open Cycle Gas Turbine (OCGT) power station and Gas Condition Plant within this installation at East Knapton. The site is capable of supplying electricity for up to 40,000 homes. There are 25 full time employees at the site and the site is operational 24 hours a day, 7 days a week with the exception of shut downs for maintenance work.

The Gas Turbine Engine, which was commissioned 1994, drives a generator producing an electrical output of 41.5MW for the National Grid. However the existing Gas Turbine is less efficient than modern generating capacity, such as Combined Cycle Gas Turbines (CCGTs). The efficiency is dependent upon ambient weather conditions and the level of gas available to burn on the turbine. Therefore, in reality, the turbine can produce a maximum of 38MW.

The Gas Turbine Engine operates on sour gas (natural gas containing hydrogen sulphide) which is deemed unsuitable for injection into the National Gas Transmission System (NGTS or NTS). The sour gas was discovered in the 1970 and is abstracted from accumulations beneath the Vale of Pickering. The gas originates from the deposits laid down in the primeval swamps, which have become trapped within Permian limestone reservoir rock. The conditioning of the sour gas takes place within the Gas Conditioning Plant, where free-water and hydrocarbon liquids are removed from the gas stream. The process ensures the gas is suitable to be used as fuel within the Gas Turbine.

The existing site layout comprises the Power Generation Plant (Gas Turbine/Generator) on the northern half of the site and the Gas Conditioning Plant on the southern half of the site. The existing administration building and control room/workshop is in the north-west corner of the site. The unclassified access road runs east from the B1258 to the site and runs parallel to the York-Scarborough railway line. The site entrance is within the northern boundary and there are internal access roads within the site. The existing turbine exhaust stack is located in the north-east corner of the site.

Viking Gas UK owns four gas fields in the Vale of Pickering (VoP), as follows:-

- 1) Malton
- 2) Marishes
- 3) Kirby Misperton
- 4) Pickering

Viking UK Gas Ltd also owns two fields located to the north of the VoP- Ebberston Moor and Wykeham. There are 6 active production wellhead sites within the VoP at the following locations:-

- Kirby Misperton 1 & 3- East of Alma Farm, Habton Road, Kirby Misperton

- Kirby Misperton 2 & 5- West of Alma Farm, Habton Road, Kirby Misperton
- Pickering 1 - Malton Road, Pickering
- Marishes 1 - Wath Hall, Low Marishes 37
- Malton 1 - Habton Lane, Great Habton, Malton
- Malton 4 - Wellfield Farm, Kirby Misperton Lane, Great Habton

Pickering 2- ?

Viking UK Gas Ltd has 30km of pipeline which link these 6 wells to the Knapton Gas Station site.

It should be noted that the Ebberston Moor and Wykeham gas fields (Northern Fields) fall within the North York Moors National Park (NYMNP). These gas fields were in production between 1972 and 1974 although they have been dormant ever since. The NYMNP would be the Planning Authority for any development of well sites within these gas fields. A copy of the Viking UK Gas screening request has been submitted to the NYMNP.

### The Proposal

A screening opinion is sought for the expansion of the existing Viking UK Gas processing facilities to allow gas treatment at Knapton, together with the construction of additional gas and liquid pipelines between the Ebberston Moor fields and the plant and proposed treated gas line between the Knapton plant and the high pressure National Transmission System (NTS) at Knapton Gas Station (KGS), Claypit Plantation, East Knapton on behalf of the Viking UK Gas Limited/Third Energy.

The screening opinion is sought for the proposal which comprises four parts as follows: -

- 1) Expand gas processing facilities to allow gas treatment to NTS specifications (within boundaries of existing facilities-not extension to site)
- 2) Additional gas and liquid pipelines between gas fields and KGS
- 3) A treated gas line between KGS and the NTS
- 4) Drilling from existing and new well sites in the Vale of Pickering (VoP) & Ebberston Moor (subject of separate planning applications to relevant Planning Authority)

The applicant states that the abovementioned proposals are to be phased over the period between 2012 to 2015. The applicant states that they hope to start production in 2015 and would anticipate that the operation would have an economic life of between 15 and 20 years, again depending on the amount of gas which they are able to develop economically. It should be noted that this would require an extension of the existing planning permission for KGS beyond May 2018.

The proposals for each of the 4 parts of the development are detailed in order below:-

1) Expand gas processing facilities to allow gas treatment to NTS specifications (within boundaries of existing facilities-not extension to site)

The proposed expansion to the gas plant, at present, comprises the installation of additional facilities within the boundary of the site and not an extension to the site. The administration building and control room/workshop which is in the north-west corner of the site would be

relocated to adjacent to the northern boundary (currently used as the car park) and a gas sweetening plant (to achieve NTS specifications) and associated equipment would be installed in the north-west corner of the site. The applicant states the entire footprint of the new facilities would occupy an area slightly greater than the existing administration building and control room/workshop (approx. 900m<sup>2</sup>). All new equipment to be installed within the KGS site would be designed to be lower than the existing facilities within the KGS site and will therefore be a maximum of 15 metres tall. The expansion will involve the upgrade the control and safety systems on site which are proposed to consist of:-

1. A Process Control System (PCS)
2. A Process Shutdown System (PSD)
3. An Emergency Shutdown System (ESD)
4. A Fire and Gas Detection and Protection System
5. A telecommunications systems facilitating Data Transfer to and from the well sites
6. A supervisory control and Data Acquisition System (SCADA) monitoring the above and providing an Operator Interface complete with a Web based application to facilitate remote management reporting.

The applicant states that at this stage given the subsurface uncertainties (how much additional gas is recoverable from the reservoirs and the number of development wells it will require to extract it), they have taken the decision to develop the gas expansion in a series of equally-sized modules. Each gas plant module would have a capacity of 15MMscfd (Million Standard Cubic Feet per Day), equivalent to 425,000 m<sup>3</sup> per day. Each module is expected to have a footprint of approximately 2200m<sup>2</sup>.

The applicant states that the best case scenario from their perspective would be the installation of three gas plant modules within the existing East Knapton site (if the drilling campaign is very successful). This would give a total capacity of 45 MMscf/day or 1.27 million m<sup>3</sup> per day. If the results of the drilling are not as favourable the applicant states that there may only be one or two modules. ✓

## 2) Additional gas and liquid pipelines between gasfields and KGS

The applicant has submitted a plan showing the three possible pipeline routes between the gasfields and Knapton Gas Station (KGS). Labelling the possible pipeline routes as shown on the plan from West to East:

Route A (the most westerly/ black line) runs south from the Ebberston well site and passes to the east of Thornton-le-Dale then onto Knapton. The pipeline route is 15.6 km in length (9.7 miles).

Route B (the central route/blue line) also runs south from the Ebberston well site in a direct route to Knapton. The pipeline route is 10.1 km in length (6.3 miles).

Route C (the most easterly/red line) is the longest of the three routes and runs from the Wykeham 1 well site directly to Knapton. The pipeline route is 12.3 km in length (7.7 miles).

The applicant states that Route A follows the path proposed in the Moorland Energy development as far as Thornton-le-Dale, whereas the other two routes B & C are conceptual at this stage and do not take into account specific land or environmental restrictions.

The applicant states that the diameter of the pipeline will be dependent upon the success of the drilling operations and hence the ability of the reservoirs to produce. The applicant states that it is highly likely, based upon the Conceptual Study Report, that the pipeline (regardless of which route is finally chosen) will have an outside diameter of 200mm (8 inch). This is a small diameter line and will be of a similar size to the field pipelines currently in use.

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### 3) A treated gas line between KGS and the NTS

The proposed pipeline required from the Knapton Gas Station direct to the closest point of the National Transmission System would be 4.0 km in length (2.5 miles). As with the aforementioned pipeline routes A, B & C the treated gas pipeline will have an outside diameter of 200mm (8 inch).

### 4) Drilling from existing and new well sites in the Vale of Pickering (VoP) & Ebberston Moor (subject of separate planning applications to relevant Planning Authority)

The applicant states that a 3D seismic survey is due to be completed later in 2012 and they expect the results to yield a much clearer "picture" of the gas reservoirs, which in turn will inform the number of additional wells required. The applicant states that they do not intend to develop the northern fields until they have interpreted the 3D seismic and drilled additional wells to appraise the accumulation(s) sufficiently.

At this stage the applicant can only provide an outline for the planning process:

Vale of Pickering: between 10 and 15 additional wells spread across the existing fields.

Northern fields: between 5 and 10 wells.

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In both cases, it is proposed that they will use existing surface well pads where possible, extending them if necessary. The applicant states that this approach will serve both to keep the environmental impact to a minimum and also to keep costs down. However some new well pads will be required.

The new Ebberston Moor well sites would contain the "Christmas Tree" (assembly of valves, spools, and fittings used for the gas well) and associated valve/pipework, a small 2 phase separator, a hydraulic power unit and chemical injection skid. This will allow the well fluids to be separated into a gas and liquid stream for transport via two single phase pipelines to the processing facilities. In the case of the Northern Fields, individual well flow lines will be gathered at a convenient location near the wells and the gas and liquids brought south to Knapton using one gas and one liquids pipeline.

### Considerations in respect of the Screening Opinion

Part 1, Section 2 of the Town and Country Planning (Environmental Impact Assessment)(England and Wales) Regulations 2011 states a "screening opinion means a written statement of the opinion of the relevant planning authority as to whether development is EIA development".

This section also goes on to state that "EIA development means development which is either Schedule 1 development or Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location".

The relevant Schedules are as follows:-

**SCHEDULE 1**

14- *Extraction of gas for commercial purposes*- threshold 500,000 cubic metres per day

16- *Pipelines for transport of gas*- thresholds diameter 800mm, length 40km

21- *Change or extension*

For all of the projects that are included within Schedule 1, an EIA must always be carried out. For the purposes of Schedule 1(14) it is considered that the proposed development would have a total capacity to exceed the 500,000 cubic metres per day threshold for the extraction of natural gas for commercial purposes. This is based on the applicants "best case scenario" projection for the installation of 3 gas plant modules each having a capacity of equivalent to 425,000 m<sup>3</sup> per day, resulting in a total capacity of 1.27 million m<sup>3</sup> per day. It is accepted that this level of expansion would only be progressed if, in the words of the applicant, "the drilling campaign is very successful" but in order to assess the environmental impact of such expansion it is prudent to consider the maximum level (1.27 million m<sup>3</sup> per day) of natural gas extraction facilitated by the proposed development.

Furthermore consideration should be given to Part 21 of Schedule 1 and the proposed works as being a "change" to the development which in itself would exceed the threshold set in paragraph 14 of Schedule 1. With this in mind the duration of impact is also a key consideration as the proposed expansion of KGS (if production can be achieved and the amount of gas is economically viable) would require an extension of the existing planning permission (approx. 15-20 years) beyond that permitted by the existing planning permission (2018) and therefore the extended impact of the existing facility (including the turbine exhaust stack) would need to be assessed.

However, for the purposes of paragraph 16 of Schedule 1, it should be noted that the pipelines would be below the thresholds for the pipeline width and length (200mm diameter & max. 16km in length).

Any development being determined to fall within Schedule 1 automatically requires an Environmental Impact Assessment and therefore in respect of this Screening Opinion request it is considered that an EIA in this instance is a mandatory requirement.

**Conclusion**

For the reasons described in the sections above in respect of the development proposed and the details submitted by the applicant detailing the four parts of the proposed development, specifically the information relating to the estimated maximum capacity levels of daily gas extraction, the development falls within Schedule 1 and the criteria set down in paragraph 14 and on the basis of this determination an Environmental Statement is required.

**Recommendation**

Having regard to the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011 and having regard to the information provided by the applicant, it is considered that the development in respect of the expansion of the existing Viking UK Gas processing facilities to allow gas treatment at Knapton, together with the construction of additional gas and liquid pipelines between the Ebberston Moor fields and the plant and proposed treated gas line between the Knapton plant and the high pressure



National Transmission System on land at Knapton Gas Station, Claypit Plantation, East Knapton when its accumulative impact is considered **WOULD** be likely to have significant impacts upon the environment and falls within Schedule 1 of the EIA Regs 2011, and therefore an Environmental Impact Assessment will be required to be undertaken and an Environmental Statement provided.

In light of the above I should be grateful if you would accept that the attached Screening Opinion should be adopted as the opinion of the County Planning Authority by endorsing this letter with your signature.

I should be grateful if you would signify your decision in respect of these matters by endorsing this letter with your signature.



SHAUN ROBSON  
DEVELOPMENT CONTROL TEAM LEADER

Signed: .. [Redacted] .....  
Head of Planning Services, Business & Environmental Services

Date: ..... 28<sup>th</sup> December 2011 .....

Offset Wells Map

