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Planning Officer
North Yorkshire County Council
County Hall
Northallerton
DL7 8AD

Our Ref: 17809/A3/JM/CMG
18 January 2010

Dear Sir,

RYEDALE GAS PROJECT, NORTH YORKSHIRE - REQUEST FOR A SCOPING OPINION UNDER REGULATION 10 OF THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 1999

This letter and the supporting plan represent a formal request, on behalf of Moorland Energy Limited, for a Scoping Opinion, in accordance with Regulation 10 of the EIA Regulations 1999, from North Yorkshire County Council (NYCC).

In accordance with Regulation 10(2) of the EIA Regulations we have provided the following information:

- (a) a plan sufficient to identify the land; and
- (b) a brief description of the nature and purpose of the development and of its possible effects on the environment (provided below).

The Site and Proposed Development

The proposed development comprises gas production at the existing Ebberston well site and the construction of two pipelines in parallel carrying wet gas and condensate respectively from the wellsite, plus a fibre optic cable, to a processing plant on land off Hurrell Lane, Thornton-le-Dale, a distance of approximately 7.5km. From the processing plant, the gas will be fed into the existing NTS pipeline which runs through the field to the south of New Ings Lane via a "hot tap" connection. The gas will then be transferred to the National Transmission System at Pickering. The proposed development therefore comprises:

- Pipeline construction from Ebberston to Hurrell Lane;
- Gas processing facility at Hurrell Lane, with a new access road from the A170; and
- A "hot tap" connection into the existing NTS pipeline on land off New Ings Lane, including two sampling points – upstream and downstream and a separate access road.

The construction of the pipelines would be within a "working width" of approximately 42m. The locations of the pipelines, access road, processing facility and "hot tap" connection are indicated on the enclosed plan.

EIA Scoping

The proposed development falls within Schedule 1 of the *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999* as identified by NYCC in their Screening Opinion adopted on the 18th August 2009 (ref: NY/2009/0319/SCR). This is because once operational gas extraction is expected to be between 425,000 and 560,000 cubic metres per day and would exceed the threshold of 500,000 cubic metres per day permitted under paragraph 14, Schedule 1 of the EIA Regulations. The North York Moors National Park Authority (NYMNPAA) determined the proposed development as a Schedule 2 development due to the sensitive nature of the North York Moors, as detailed in their letter dated 19 August 2009. Therefore Moorland Energy Limited are now seeking to confirm the scope of the ES with NYCC. A review of each of the topics identified within the EIA Regulations 1999 was undertaken as part of this scoping request.

As you are aware, in March 2010 the Infrastructure Planning Commission (IPC), an independent body set up by the Government to make decisions on nationally significant infrastructure projects, will begin receiving applications from the energy and transport sectors. Since the Screening Opinion was submitted in June 2009, the draft National Planning Statements have been published by the Department for Energy and Climate Change. "Gas Supply Infrastructure and Gas and Oil Pipelines" are covered in EN-4 which states at para 1.7 that projects which have a projected delivery flow rate of more than 4.5 million standard cubic metres per day (Mcm/d) will be classed as nationally significant infrastructure, to be dealt with by the IPC. We can confirm that our projected flow rates are less than 1.5 Mcm/d and therefore the application falls within the remit of the Town and Country Planning Act 1990 and not the IPC. An EIA will therefore be produced in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.

Guidance regarding the content of the EIA is contained in Schedule 4 of the EIA Regulations. This, *inter alia*, requires the ES to include:

'A description of the aspects of the environment likely to be significantly affected by the proposed project, including, in particular, population, fauna, flora, soil, water, air, climate factors, material assets, including the architectural and archaeological heritage, landscape and inter-relationship between the above factors'.

Based on the proposed development, national planning policy, the relevant policies of the Development Plan and the project team's knowledge of the site and its environs, an assessment has been made regarding which of these topics or particular aspects of them can be 'scoped in' and 'scoped out' of the EIA. Issues that are scoped into the EIA are judged likely, without effective mitigation, to have the potential to cause significant effects. Issues that are scoped out of the EIA are those which are not anticipated to result in significant effects. The decision to scope out issues is based upon factors such as a high degree of development - receptor separation, the lack of effect pathways or the known low value or sensitivity of effected resources.

It should be noted that as the assessment proceeds any omitted topics will be reviewed and their significance may be re-evaluated in response to additional information or changes to the proposed development.

Baseline

The purpose of baseline studies is to identify and describe the environmental conditions against which the proposed development can be measured or predicted. The baseline situation for this ES will assume that the environmental conditions at the site are as they exist at the present time. We are currently not aware of any consented developments that may be built out before the pipeline/processing plant construction starts which will affect the baseline. We would be grateful if you could advise us of any proposals you consider which may affect the baseline.

Assessment of Effects

The EIA Regulations stipulate that an ES should identify, describe and assess the likely significant effects of a development on the environment, including a consideration of:

- Beneficial and adverse effects;
- Short, medium and long term effects;
- Direct and indirect effects;
- Permanent and temporary effects; and
- Cumulative effects and effect interactions.

The ES will identify and assess the likely significant effects of the proposed development in relation to both the construction and completed phases of the proposed development. Environmental effects will be evaluated with reference to best practice guidance, standards and legislation where available.

Temporal Scope

The EIA will address the construction phase, currently anticipated to take place between late 2010 and 2011 and the subsequent operational phase.

Spatial Scope

The geographical coverage of the EIA will be determined by a number of factors including:

- the physical extent of work;
- the nature of the baseline environment, including the location of sensitive receptors;
- the distance over which effects will be significant; and
- the presence and type of "pathways" along which effects may be spread.

Scope of the ES

1. Ecology

Neither the route of the pipelines nor the site of the proposed gas processing plant are located on or directly adjacent to any international (e.g. Special Protection Area) or national (e.g. Site of Special Scientific Interest) ecological designations. However, some SSSIs are located within 2km of the proposed pipelines, namely Troutsdale and Rosekirk Dale Fens SSSI and Nabgate SSSI. The potential for the proposed development to have an effect upon these features, as well as any local features of ecology and nature conservation importance, such as protected species, will be addressed within the ES.

The assessment will include a desk top study of existing information, identification of further necessary survey work, the findings of any required survey work and recommendations for mitigation and monitoring, if appropriate. The ES will be undertaken in accordance with relevant guidance including the Guidelines for Ecological Impact Assessment from the Institute of Ecology and Environmental Management.

Key Issues

Based on a preliminary review of the proposals plans and aerial photography at the two key facilities (Ebberston Well Site and the proposed Processing Station at Hurrell Lane) and the pipeline route, the predominant landscape is arable and pasture farmland with hedgerow and blocks of plantation woodland, some of which is commercial forestry.

The key areas of work that will need to be considered will be:

- Construction, operation and decommissioning impacts arising from the Hurrell Lane facility (including restoration);
- Likely impacts on the flora and fauna arising from construction of the preferred and alternative pipeline routes, including interruption of watercourse and hedgerow 'corridors'.

Given the nature of the dominant habitat types, the absence of nationally or regionally important sites (outside the National Park) and the largely temporary effects arising from pipeline construction, impacts on vegetation are unlikely to be a major issue. Ecological issues are more likely to involve construction impacts on protected and/or notable species of fauna including, but not restricted to, badger, bats, water vole, otter, nesting birds, reptiles and amphibians.

The scope of work outlined in the following sections aims to focus on these work areas and satisfies the outputs necessary to support the planning application and address local, regional and national policy requirements for biodiversity and nature conservation.

Scope of Work

The structure of the Ecology chapter within the Environmental Statement, would follow the approach within 'Guidelines for Ecological Impact Assessment' (IEEM, 2006). This would include scope; methods; limitations; results; evaluation; impact assessment; avoidance; reduction; compensation and enhancement measures; and assessment or residual impacts. Irrespective of the requirement for stand alone ecological technical reporting or for ecological reporting as part of an EIA two key elements of the study will be **desk based study and consultation** and **field based surveys**.

Desk-based Study & Consultation

- Interrogation of geographically relevant online databases: Natural England, MAGIC, NBN gateway, to identify designated sites and notable species records. Search areas would be:
 - NBN & Natural England (relevant 10km square)
 - MAGIC (2km from preferred and alternative scheme boundaries)
- Consult with the local biological records centre and records holders to obtain details of nonstatutory designated sites, and records of notable and protected habitats and species. Consultees to include:
 - North East Yorkshire Ecological Data Centre (NEYEDC)
 - Badger Group (if records not held by NEYEDC)
 - Bat Group (if records not held by NEYEDC)
 - County Bird Recorder (if records not held by NEYEDC)
- Consult with statutory and non-statutory consultees regarding scope of work:
 - Natural England
 - Environment Agency
 - Yorkshire Wildlife Trust
 - North Yorkshire County Council Ecologist

Field based surveys

A number of field based surveys are proposed including an **Extended Phase 1 Habitat Survey, Hedgerows Survey, Badger Survey, Otter and Water Vole Survey and Other Species Surveys**. These surveys are described in more detail as follows. The proposed variations in surveys between the proposed new facility and the preferred and alternative pipelines are also presented:

Extended Phase 1 Habitat Survey

- Survey area would be the proposed facility + c.250m radius (depending on access) and up to 250m either side of the centreline of the preferred pipeline route. Beyond 100m of the centreline, the vegetation would be recorded at a lower level of detail.
- Field survey on the site on one occasion and record and map the habitats and vegetation in accordance with the published Phase 1 methodology (Joint Nature Conservation Committee, 2007) to record nature and extent of broad habitat types. Record dominant plant species for each habitat type. Record notable or invasive species (or assess risk of such species being present). Also to include review of online aerial photography.
- Appraise habitats for their suitability to support protected and/or notable species of flora and fauna including statutorily protected species, national and local Biodiversity Action Plan habitats and species, and Habitats and Species of Principal Importance for the relevant geographical area (including hedgerows). Based on guidance within 'Guidelines for Baseline Ecological Assessment (IEA, 1995). To include:
 - External inspection and evaluation of any trees and other features for suitability for roosting bats and classification as low, moderate or high potential in accordance with published guidance (Bat Conservation Trust, 2007).
 - Evaluation of habitat suitability for otter and water vole in accordance with published methodologies (Strachan and Moorhouse, 2006).
 - Evaluation of habitat suitability for notable species or assemblages of breeding and wintering birds.
 - Evaluation of habitat suitability for notable species or assemblages of amphibians and reptiles (Herpetofauna Workers Manual, 2004).
 - Evaluation of habitat suitability for notable species or assemblages of invertebrates.

Hedgerows Survey

Evaluation of hedgerow 'importance' in accordance with wildlife and landscape criteria of The Hedgerows Regulations, 1997. Survey restricted to hedgerows affected by proposed facility and preferred pipeline route.

Badger Survey

Record sett locations, badger paths, latrines, foraging signs, and other evidence of badger in accordance with published guidance in 'Surveying for Badgers' (Harris, Creswell & Jefferies, 1989). Along the pipeline the survey area to focus on land within 50m of the centerline.

Otter and Water Vole Survey

In areas of suitable habitat (watercourses and waterbodies), record burrows, holts, feeding areas, feeding remains, runs, slides, etc in accordance with published methodology including the 'Water Vole Conservation handbook (Strachan and Moorhouse, 2006). Along the pipeline the survey area to focus on land within 100m of the centerline for water vole and 250m for otter.

Other Species Surveys

Targeted surveys for other species are not proposed at this stage, as they are less likely to be required. However, the extended Phase 1 Habitat survey may identify requirements for groups such as amphibians and reptiles and also bats (if hedgerows or hedgerow trees are to be removed for construction. It should be noted that it may not be possible to confirm absence of breeding amphibians (including great crested newt) from suitable waterbodies, as the recommended survey period is mid-March to mid-June.

2. Landscape and Views

Neither the route of the pipelines nor the proposed Hurrell Lane gas processing plant lies within an Area of Outstanding Natural Beauty. However, the construction of the pipeline, gas processing plant and "hot tap" will generate potentially significant landscape and visual effects which would need to be assessed. On completion of the construction of the pipelines the land will be restored. However, the gas processing facility at Hurrell Lane, the access road from the A170 and the "hot tap" have the potential to generate a permanent effect on landscape and views that would need to be assessed.

Therefore, a Landscape and Visual assessment will be included as part of the ES. The assessment will involve both desktop research and site visits to undertake an appraisal of the site and its surroundings and review the visibility of the site in the context of the adjacent area, particularly in relation to the adjacent residential properties in the vicinity of the site and from public rights of way and roads in the locality.

The assessment will use the methodology provided within the Guidelines for Landscape and Visual Impact Assessment—Second Edition (2002) and Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) to assess the potential significant effects of the proposed development on landscape and visual receptors.

A number of guiding documents will also be referred to in the course of the assessment, including:

- National Landscape Character Assessment (Volume 1; Area 25: North Yorkshire Moors and Cleveland Hills & Area 26: Vale of Pickering);
- North York Moors Landscape Character Assessment (Adopted September 2004);
- North York Moors National Park Management Plan (September 2004 Review);
- North York Moors National Park Design Guide; and
- Ryedale SPG Landscaping on Development Sites (December 2004).

In support of the landscape and visual assessment an arboricultural survey will be carried out on the Application Site in accordance with BS5837:2005 (Guide for Trees in Relation to Construction).

3. Air Quality

No Air Quality Management Areas have been identified at either the location of the gas processing plant or along the route of the pipelines. However, the potential for the proposed development to result in significant effects on air quality relates to:

- dust associated with construction activities;
- changes in traffic flow characteristics on the local road network due to the construction works; and
- changes in traffic flow characteristics on the local road network due to the operational phase of the proposed development.

The air quality assessment, therefore, will comprise a qualitative assessment of dust and nuisance during the construction phase. The assessment of effects from road traffic during the completed phase of the proposed development will be undertaken using the Design Manual for Roads and Bridges Screening Method which will estimate roadside air pollution concentrations. The assessment will also utilise the DMRB model which calculates pollutant concentrations based on empirical relationships between traffic density, speed and distance of sensitive locations from road networks. The predicted concentrations will be compared to relevant air quality criteria for traffic related pollutants.

Key Issues

The key issues at the site with respect to air quality are likely to be industrial emissions from the processing plant and construction dust issues along the pipeline route. The main sensitive receptors

of concern are anticipated to be the residential receptors located in Thornton-le-Dale, Ellerburn, Wilton, Allerstone and Pickering and also the designated ecosystem sites (SSSI and SAC) that are located predominantly to the north and north west of the gas processing site.

Scope of Work

The following scope of works is considered to be appropriate to address any air quality impacts that may be associated with the power generation project within the context of either a stand alone technical report or as an air quality chapter of an EIA:

- Identify appropriate legislation and guidance;
- Identify relevant local, regional and national planning policy;
- Establish baseline air quality;
- Screen construction and operational air quality impacts;
- Assess remaining significant air quality emission sources;
- Identify appropriate construction dust mitigation measures; and
- Discuss operational mitigation measures (e.g. point source emission abatement technologies).

The air quality scope of works will be discussed with the Ryedale DC air quality officer in advance of air quality modelling to confirm the below approach. Baseline air quality will be established from existing sources of air quality monitoring data, such as local authority sources (e.g. Local Air Quality Management Reports), national air quality archive data (e.g. background maps) and other Defra funded national air quality networks. It is not proposed to install air quality monitoring as part of the air quality commission. The different air quality construction and operational emission sources that will be considered as part of air quality assessment are described below.

Construction Emission Sources

Construction has the potential for air quality impacts from dust generating activities such as earthmoving (e.g. pipeline works) and also from plant exhaust emissions. Construction dust emissions for the pipeline routes and gas processing site will be addressed through a qualitative risk assessment and by reference to a BRE construction dust case study. Construction plant emissions will be assessed using a basic ADMS dispersion model using anticipated plant types and numbers to estimate pollutant concentrations. Construction emission mitigation measures will also be provided. These will be based on the predicted significance of unmitigated air quality impacts on sensitive receptors and will be developed from construction industry best practice documents from organisations such as CIRIA, BRE and BSI. Mitigation measures will also be included to address potential impacts from decommissioning activities.

Gas Processing Plant Emissions

The first stage of assessing the gas processing plant is the establishment of an emissions inventory for the site. An initial review of the drawing provided illustrates the presence of several potential emission sources including a Flare, Compressor House, Heaters and Storage Tanks. The emissions from the plant will be assessed initially against the Environment Agency H1 screening model to identify significant pollutants requiring further detailed air quality assessment.

Following H1 screening any detailed modelling required (e.g. SO₂, particulates) will be undertaken using ADMS, an advanced dispersion model. ADMS enables the calculation of pollutant concentrations at specified locations or across wide areas via contour plots. ADMS can incorporate building effects, terrain and also meteorological data. Air quality predictions will be undertaken at worst case sensitive receptor locations around the site (e.g. residential properties or designated ecological sites such as SSSIs). Pollutant deposition calculations will also be provided for any designated ecosystem sites.

We will consider both normal operating conditions and abnormal operating conditions. We recognise that the processing of gas on-site and in particular the H₂S content of the gas has the potential to cause odour issues around the site. Odour issues would also be considered as part of the assessment, with the specific approach to be determined at the start of the commission following a detailed review of the odour abatement techniques proposed. The mitigation measures planned for incorporation into the design of the gas processing plant will also be emphasised in the assessment. URS can assist in the identification of BAT for the site with respect to air quality emissions and have done so for other clients in the oil and gas sectors.

Road Traffic Emissions

It is currently envisaged that road traffic impacts (construction and operational phases) will be insignificant, with low numbers of additional vehicles likely to be associated with the project and that these additional vehicles will not require air quality modelling following screening. Screening will be undertaken using both the Design Manual for Roads and Bridges Air Quality screening criteria and also the UK Environmental Protection screening criteria. Both criteria consider changes in traffic flow characteristics with and without development and where changes are below criteria no further assessment is typically required. The full screening procedure will be presented as part of the air quality assessment.

In the event that traffic impacts are significant these will be assessed using ADMS-Roads, an advanced dispersion modelling package. ADMS-Roads is proposed rather than a screening model (e.g. DMRB screening spreadsheet) as this will enable pollutant concentrations from road traffic sources to be combined with pollutant concentrations from any gas processing plant emissions generated from ADMS.

4. Noise and Vibration

Effects on noise sensitive receptors have the potential to arise from the construction and operational phases of the proposed development. Therefore, an assessment of noise will be included in the ES and will consider the following:

- noise arising from plant and activities associated with the construction works (e.g. excavation of trenches);
- noise associated with the construction of the proposed development, including HGV traffic;
- noise effects which may arise as a result of traffic generation from the completed phase of the proposed development;
- noise associated with the operation of the proposed gas processing plant at Hurrell Lane.

Assessment of noise from the construction phase of the development will be undertaken in accordance with the methodology outlined in BS5228 (Noise and Vibration Control on Construction and Open Sites). Noise from construction traffic will be assessed through measurement of existing noise levels in the area and prediction of the changes in noise levels due to traffic generation using the methodology from the Control of Road Traffic Noise (CTRN). Assessment of noise from the operational phase of the development will also comprise measurement of existing noise levels in the area and prediction of the changes in noise levels due to traffic generation using the methodology from CTRN. As part of the assessment consultation will be undertaken with the environmental health officers at Ryedale District Council to identify any particular issues of concern.

5. Traffic and Transport

The construction of the proposed development will generate additional traffic as a result of the movement of materials and personnel. An assessment of the effects of the proposed development on transport will be included in the ES which will establish the baseline traffic conditions with regard to public rights of way and roads and then determine the effects of the proposed development on these facilities identifying mitigation measures where appropriate. The effects of the construction and operation of an access road onto the A170 will also be assessed within the ES.

There are two temporal impacts of the development related to traffic and transportation. The first is related to the construction phase, which will see an increase in the movement of materials and personnel from site compounds and laying down areas to the construction site at various points on the line of the works and therefore on the local highway network. It is anticipated that the construction traffic effects will be cyclical depending on the programme of operations and this will lead to peak movements in certain periods. This will all be included in the assessment and underpin the assessment of construction traffic in relation to both Air quality and Noise assessments.

The second effect is related to the operational phase of the development and our initial approximation of site traffic is set out in the table below. This is considered to be insignificant and it is suggested that the impacts of the operational traffic will not require assessment in relation to Air Quality and Noise impacts. The permanent access works will be designed to safely accommodate the minimal traffic movements associated with the operation of the site. In a scoping meeting with the North Yorkshire County Council Highways Development Control Officer the preferred access strategy has been discussed in relation to the permanent site access and the content of the supporting Transport Assessment agreed.

It should be noted that minimal operational traffic will be generated and this will therefore be an insignificant effect. On this basis an assessment of traffic effects will be limited to the peak construction phase of the development where most HGV's will be observed on the local network.

All assessment work will be carried out in accordance with current Transport Assessment and EIA Transport Assessment guidelines.

6. Flood Risk, Hydrology and Drainage

Neither the proposed gas processing plant at Hurrell Lane nor the route of the pipelines lie within floodplains defined by the Environment Agency; however, the pipelines will cross several ditches and drains and the potential for effects on these watercourses would need to be addressed within the ES. The ES will also identify and assess effects on any groundwater aquifers, existing water abstraction and discharge points and water supplies in close proximity. A Flood Risk Assessment will be undertaken based on the requirements of Planning Policy Statement 25, and in consultation with the Environment Agency, and included in the ES.

Key Issues

Based on a preliminary review of the flood risk at the Eberston Well Site and the proposed Processing Station at Hurrell Lane, and the pipeline route, the risk of flood is considered to be low. The Environment Agency website flood risk maps suggest that the wellsite and proposed processing station are located in zone 1, where the land is assessed as having a less than 0.1% annual probability of flooding from the surrounding rivers. However this will be confirmed with the Environment Agency. Assuming this is the case, then the key areas of work that will need to be considered are:

- The drainage from each facility, ensuring that the greenfield runoff rate is maintained during and post construction;
- The impacts on the local hydrology of all river crossings from the different pipeline routes; and
- The potential impacts on the general water resource situation (surface and groundwater) in the area.

The scope of works outlined in the following sections aims to focus on these work areas and satisfies the outputs necessary to support the planning application.

Scope of Work

There are three key technical assessments required:

Assessment 1: Pipeline Route Options Appraisal following the principles of Sequential Testing as outlined in Planning Policy Statement 25

This will comprise a number of tasks including:

- Baseline data collection (from public sources, including the Environment Agency)
- Review of relevant documents including local, regional and national planning policy.
- High level assessment of the flood risk posed to and by the proposed pipeline options.
- A Sequential Test to assess the options for the pipeline.

Assessment 2: Flood Risk Assessment for the preferred option

This will follow PPS25, focusing more on the drainage elements and the need to ensure any runoff from the two development areas is attenuated to Greenfield runoff rates. This will comprise:

- A site visit to familiarise ourselves with the location, layout and the hydrological features of the area. The site visit will focus on the inspection of the surface water drainage systems.
- Detailed assessment of baseline data collected in Part 1 and assessment of flood risks to and drainage needs for the proposed development areas and the pipeline.
- Identification of mitigation measures.
- Assessment of residual risks.
- Preparation of a flood risk technical report that can be used to accompany the
- Environmental Statement, incorporating the results of the sequential testing from Assessment 1.

Assessment 3: Water Resources Chapter

The Water Resources chapter will include the following: legislative and planning policy context; explanation of the assessment methodology and impact significance criteria; analysis of baseline conditions covering geology, hydrology, hydrogeology and groundwater, surface water resources, aquifers, abstractions, source protection zones, water quality and water services; assessment of potential impacts and mitigation measures.

7. Geology and Ground Contamination

The construction of the pipeline may affect geological conditions and directional drilling will be required under roads, drains and two Scheduled Ancient Monuments (SAM) - a pit alignment and the Oxmoor Dike. The construction of the pipeline may affect ground conditions and although no evidence of contamination has been identified to date the potential exists for contaminated land associated with the disused railway to the north of the Hurrell Lane processing plant, and any unknown landfills or quarry sites. Therefore, the ES chapter will comprise an examination of existing data related to the site, including historical Ordnance Survey maps, reference to geological and hydrogeological maps and reference to publicly available environmental records, including databases maintained by the Environment Agency.

8. Archaeology

No World Heritage Sites or Scheduled Monuments have been identified on or adjacent to the Hurrell Lane site. However, the proposed pipeline route will pass under two Scheduled Ancient Monuments - a pit alignment and the Oxmoor Dike, and a meeting has been organised with English Heritage and the archaeologists at NYCC to discuss necessary mitigation measures. The proposed development does have the potential to affect known and unknown buried archaeology and therefore the ES will include a desk based assessment, in accordance with the Institute of Field Archaeology Guidelines, and a field reconnaissance survey to determine the potential effects of the proposed development on

archaeology. The chapter will also include a review of the findings of any previous archaeological investigations in the vicinity and mitigation measures, where necessary. No significant effects on cultural heritage, e.g. listed buildings or conservation areas, are anticipated and therefore this has been scoped out of the ES.

Objectives

The assessment study would provide a comprehensive desk-based review of published and readily accessible documentary, cartographic and aerial photographic information relating to the study area. The information derived from this review would be updated with new information obtained through a site walkover inspection. An assessment of the impact of the proposed development on the historic environment (archaeological sites (including Scheduled Monuments), Listed Buildings, Conservation Areas or other designated sites or areas of conservation interest) would be undertaken and recommendations made for evaluation, preservation and mitigation as appropriate.

Specific objectives relevant to the development proposals would include:

- identification of all heritage assets (recorded sites, finds, buildings and areas of archaeological, historical and architectural interest) which lie within, or adjacent to, the study area
- assessment of the potential for previously unrecorded sites of cultural heritage interest
- assessment of the potential effects of the proposal in terms of its physical (direct) impact on cultural heritage sites and/or the visual (indirect) impact on the setting of sites in the vicinity where features are found to be affected, assessment of the significance and degree of effect (both beneficial and adverse) along with the likely short term and long term effects of development
- identification of those features which should be retained and/or enhanced because of their intrinsic importance
- identification of those features or areas which require further evaluation in order to fully establish either importance or likely development effect
- identification of potential mitigation measures to avoid or remedy any adverse effect
- assessment of the degree of conflict and/or compliance with strategic and local plan policies relevant to archaeology and the built environment and national planning policy guidance

Data Collection

An initial appraisal of the route alternatives for both the proposed pipelines and processing plant would be undertaken. This would be based upon research of Historic Environment Records and 1st edition Ordnance survey maps and would relate to a 0.5km corridor along route of the proposed pipeline alternatives and within 0.5km of the proposed processing plant alternatives.

Once the preferred pipeline route and processing plant site had been established a more detailed assessment of the route and site would be undertaken. This would involve a study area of up to 0.5km from the preferred pipeline route and 1km from the proposed processing plant site in order to place the development within its context and enable an evaluation of the potential for archaeological sites within the vicinity to extend into the development area. In some circumstances more general research may be necessary beyond the limits of the detailed study area in order to establish the context and significance of sites within the area.

The following information sources would be consulted:

- Historic Environment Record data
- National Monuments Record data
- published sources (documentary and archaeological studies, local histories)
- cartographic sources (usually early Ordnance Survey, enclosure, tithe and estate maps)
- aerial photographic sources
- pictorial and other photographic sources

- English Heritage scheduling information and Registers of Battlefield Sites and Historic Parks and Gardens
- Listed Building schedules
- local authority Conservation Area schedules
- previous unpublished fieldwork undertaken in the area
- Historic Landscape Characterisation
- Portable Antiquities Scheme information
- museum records
- information from geotechnical ground investigations

In order to obtain this information some or all of the following bodies, institutions or individuals would usually be visited or consulted:

- North Yorkshire County Council Historic Environment Record
- North York Moors National Park Authority Historic Environment Record
- English Heritage
- North Yorkshire County Records Office
- Ryedale District Council
- imagesofengland website
- Northallerton and Pickering local reference libraries
- Yorkshire and Malton museums
- active fieldworkers and researchers with an interest in the study area
- landowner(s) and tenant(s)

Site Inspection

Subject to access, a site inspection would be undertaken of the route of the proposed pipeline and site of the processing plant. Site inspection would aim to determine the extent of survival of any buildings and other structures, to note the location, nature, extent and condition of any additional recorded and unrecorded archaeological sites, and to identify any concentrations of surface artefacts which might indicate the presence of subsurface archaeological features. Sketch plots of visible earthwork features would be made and photographs and notes would be taken relating to extant features, buildings or other structures. Sites, monuments or finds would be located using a hand-held GPS. Surface artefacts would be collected unless any concentrations identified the need for systematic fieldwalking.

If more systematic or detailed site inspection or fieldwalking were required then this would be a further phase of work undertaken as part of the preparation of the impact assessment.

Report

The information derived from the above stages of research would be collated, assessed and presented under the following principal sections, although the precise format of the report would be dependent upon that of the Environmental Statement

- introduction
- relevant planning policies and guidance
- methodology
- archaeological and historical background
- summary of cultural heritage sites within study area (baseline conditions)
 - archaeological sites
 - Listed Buildings, Conservation Areas and other designated areas or features (such as hedgerows of archaeological or historic importance)
 - potential for unrecorded remains
- initial design mitigation
- assessment of predicted development impact and degree of significance
- scope for mitigating effects

- recommendations for mitigation
- residual effects
- conclusions
- reference sources

The report text would be supplemented by accompanying Ordnance Survey base maps at an appropriate scale indicating the location, extent and significance of sites of cultural heritage interest. Further illustrations might include copies of relevant historical mapping, historic photographs (subject to copyright limitations) and photographs showing the current state of the site.

The initial appraisal of the pipeline route and processing plant alternatives would form an appendix to the main report.

9. Lighting

The ES will consider the potentially significant effects of lighting associated with the proposed development especially at the gas processing plant and the pipeline construction. The lighting assessment will determine the potential effect of the proposed development on adjacent sensitive receptors and identify mitigation measures where appropriate. It is expected that lighting will only be required in localised areas where necessary to provide safe working conditions when construction activities have to continue for 24-hour periods. Lighting will be designed and positioned to minimise glare to road users and residents and will be switched off when not needed.

10. Agriculture

The routes of the pipeline cross areas of large tracts of agricultural (including forestry land) and therefore the potential exists for the proposed development to generate significant effects on soils, agricultural land and agricultural tenancies. The ES will include an assessment of the effects of the proposed development on these features in accordance with best practice and policy requirements. Agricultural consultant to expand this section with any relevant additional baseline information and proposed assessment methodologies.

A Soil and Agricultural Assessment Impact Assessment (SAIA) for the project will be undertaken by Land Use Consultancy Services (LUCS) of Market Weighton, York.

Key Issues

An initial appraisal of the proposed pipeline, permanent facilities and land in the vicinity indicates that key soil and agricultural issues associated with the Proposed Development are likely to involve:

- Possible loss of 'best and most versatile' agricultural land
- The protection of soils of high quality
- The effect of the loss of agricultural land on the agricultural businesses concerned.

Planning Policy Context

Relevant Government Policy, Planning Guidance and Structure and Local Plans will be appraised for their implications on soils and agriculture within the Assessment Site.

Valued soil resources will be identified/confirmed at both national and local levels. Key aspects of the proposals as they relate to soils and agriculture will also be highlighted.

Baseline Studies: Soil and Agricultural Land Classification (ALC)

The baseline overview will include appraisal of the soils and ALC within the Assessment Site drawing upon original fieldwork and on assessments including

- Defra (formerly MAFF) ALC maps and reports and soils and land use maps and reports published by the National Soil Resources Institute (formerly the Soil Survey of England and Wales) on the soils of the Pickering area.
- Local Authority publications as they relate to soils and agriculture.

Particular attention will be paid to the key physical characteristics of the relevant soil types both individually and in combination. The cumulative impact on soils of high quality will be part of the baseline against which the Proposed Development will be assessed.

Baseline Studies: Visual Assessment Methodology

A general assessment of the soils and agricultural character of the wider Pickering area will be undertaken during the course of familiarisation and fieldwork.

Assessment of the Potential Effects of the Proposals

The effects of the proposals will be assessed in accordance with established methodology and guidance. The effects of the Proposed Development upon the soils and upon agricultural businesses will be separately assessed, including their temporary effects during the construction phase and long term or residual effects.

The approach to the assessment of impacts is based upon national guidelines and criteria and to meet current local standards including the requirements of:

- PPS7
- Annex E of PPG7
- The Local Planning Authority
- Defra
- The Environment Agency

The approach involves identification of the likely effects on soil and agriculture of the Proposed Development and a prediction of their likely magnitude or level, according to standard descriptions. The likely magnitude or degree will be correlated with an assessment of the effects on soils and agriculture in the wider context to enable conclusions to be drawn concerning the overall significance of the effects.

Methodology

Soil survey and ALC assessment across the site will include:

- Soil profile investigations to a depth of 120cm or bedrock at 100m intervals at locations predetermined by the National Grid
- Additional observations and soil profile pits to be dug where necessary to confirm soil types and land grade boundaries
- Preparation of a report (together with maps) for inclusion within an Environmental Statement to include:
 - Soil types, thickness and volumes
 - ALC assessment
 - Assessment of compliance with national planning guidance
 - Structure and Local Plan policies and other standards

The assessment of the likely effects of the proposals on the viability of existing agricultural holdings will include meetings and discussions with the affected businesses

Short, medium and longer term effects will be considered, in order to reflect changes predicted to occur over time; for example as the effects on soils of any initial handling, storage and restoration become reduced.

To this end, the preparation of a detailed, site-specific Soil Handling, Storage and Restoration Strategy for agreement with Defra, the Local Planning Authority and affected farmers and landowners in advance of works taking place will be considered. This would be supported by:

- An assessment of the current soil resources - their nature and volume.
- Comment upon their use as soil-forming material in any proposed soil improvement programme.
- Detailed proposals for the stripping and storage of all topsoils and subsoils to be used in the subsequent restoration.
- Detailed restoration proposals including final topsoil and subsoil depths.
- Recommendation for the reinstatement of artificial drainage schemes.
- A programme of aftercare.

This approach will result in the retention and/or creation of land of the highest possible quality and, as a result, the nett loss of 'best and most versatile' agricultural land will be minimal.

The SAIA will conclude with a judgement as to which of the residual effects, if any, may be regarded as likely to be significant. Conclusions will also be drawn concerning the extent to which the proposals meet planning policy and the requirements of the Development Brief.

11. Waste

Substantial volumes of waste material are not expected to be generated either during construction or operation of the proposed development and therefore significant effects on waste are not anticipated and so this technical assessment will be scoped out of the ES.

12. Socio Economics

The proposed development would have an impact on the socio-economics at both a local and national level. Initially, the construction works for the processing plant, access road and pipelines will generate local employment which will have a beneficial effect on the local economy. Likewise, once operational, the processing plant will generate employment opportunities, although it is not possible to give exact numbers at this stage.

The security of gas supply is a national requirement and should permission be granted for the proposed development, it would increase the security of supply for both the local community and the country. Planning authorities are expected to look favourably on energy developments thus enforcing the 'need' argument.

Cumulative and Interactive Effects

In accordance with Schedule 4 of the EIA Regulations, the ES will include an assessment of the cumulative and interactive effects of the proposed development and any known developments in the surrounding area.

ES Structure

The ES will address the requirements of Parts 1 and 2 of Schedule 4 of the EIA Regulations. The anticipated structure and contents of the ES will be as follows:

Chapter	Title
1	Introduction – explanation of the background to the scheme and the ES
2	EIA Methodology – a definition of the EIA process and explanation of the assessment methodology undertaken
3	Site and Surroundings – a detailed description of the Application Site and the surrounding area
4	Project Description – a detailed description of the proposed development
5	Need and Alternative Sites – a review of all viable alternatives and the need for the proposed development
6	Construction Programme – a review of expected construction method and format

Each of the subsequent technical chapters will include a description of baseline conditions, identification of the potential significant effects, assessment of the significant effects, identification of mitigation measures and a review of the residual effects.

Chapter	Title
7	Ecology
8	Landscape and Views
9	Air Quality
10	Noise and Vibration
11	Traffic and Transport
12	Flood Risk, Hydrology and Drainage
13	Archaeology and Cultural Heritage
14	Lighting
15	Arboriculture
16	Agricultural Land and Soils
17	Socio Economic

The two end chapters will summarise findings of the technical assessments including Mitigation and Monitoring and a Statement of Significance;

Chapter	Title
18	Mitigation and Monitoring – a summary of all mitigation and monitoring measures proposed
19	Statement of Significance – a summary of the significance of the residual effects of the proposed development

We trust the enclosed information is sufficient to enable you to consult the relevant consultees and for you to subsequently adopt a Scoping Opinion, but please do not hesitate to contact the writer if there are any matters arising in the interim. We would be grateful for an acknowledgement or formal receipt for this submission, together with notification of the expiry date of the statutory period. In line with the EIA Regulations, you will be aware that the Scoping Opinion needs to be placed on the Public Register.

Yours sincerely,

JENNY MASSINGHAM
Planner

cc: PF

Enc. Site Location Plan