

4.0 ALTERNATIVES & DESIGN EVOLUTION

Introduction

- 4.1 Paragraph 2, Part I of Schedule 4 of the EIA Regulations requires the Applicant to provide an outline of the main alternatives studied and an indication of the main reasons for the choice made, taking into account the environmental effects.
- 4.2 The form of the Development has been influenced by a range of factors, including location, surrounding uses and landscape character, environmental impact assessment, input from statutory consultees and stakeholders and information from two previous extant planning permissions relating to the Site.
- 4.3 This chapter reviews the principal land use and siting options explored and the reasoning for the selection of the current design for the Development, which forms the subject of assessment within the ES.
- 4.4 This chapter considers the following three options:
- The 'do nothing' alternative where the Development is not progressed;
 - Alternative locations for the Development; and
 - Alternative design and layout for the Development in the context of design evolution.
- 4.5 It should be noted that no alternative uses for the Site has been considered as both the EMS Well Site and the KGS are existing. Although the EMS Well Site is currently not in use, it was drilled in spring 2009 as an exploratory well (further information is provided below).

The 'do nothing' Alternative

- 4.6 The 'do nothing' Alternative refers to the option of leaving the Site in its current state. This would result in no corresponding adverse effects arising from traffic, landscape, ecology, noise or air emissions associated with the construction, operation or decommissioning and restoration of the Development.
- 4.7 Under this planning application, the EMS Well Site is expected to produce up to 15 million standard cubic feet (mmscf/d) of gas a day for up to 15 years; the gas would then be transferred via the pipeline to KGS to be used as fuel-gas to generate power. Without this source of gas, the potential risk to the UK's overall demand for gas could increase as the

country becomes increasingly dependent on imported gas supplies. This could also lead the UK's gas supply to become more susceptible to volatile markets outside the control of the UK, particularly during cold winter periods when there is likely to be a greater risk of gas supply shortages.

- 4.8 To proceed with the 'do nothing' alternative would also result in the loss of opportunity to extract gas for the generation of energy which would have both national and regional social and economic consequences and be contrary to National Energy and Planning Guidance including the 2007 Energy White Paper, the Energy Act 2008 and 2012 Gas Generation Strategy which supports additional gas infrastructure in the UK. The economic benefits the Development would bring through the creation and safeguarding of jobs would also not be realised. These adverse socio-economics effects outweigh any potential beneficial effects that would arise from the 'do nothing' alternative.

Alternative Locations

Alternative Locations for the Well Site

- 4.9 No alternative locations for the Well Site have been considered. The EMS Well Site was constructed in late 2008 by Moorland Energy Limited (MEL) and drilled in spring 2009 as an exploratory well. The results of the drill stem testing indicated that there were substantial quantities of gas reserves to justify production.
- 4.10 The Well Site is enclosed by a 2m high post and wire fence. It currently contains a 0.66 ha area of flat bare ground (drilling platform), an existing borehole with an associated wellhead (Ebberston Moor South well) and a well cellar adjacent to the wellhead on the eastern part of the EMS Well Site. The gas production associated with the Development is expected to be up to 15 years duration and as such no other sites have been considered.

Gas Processing Facility

- 4.11 No alternative locations for gas processing have been considered as existing infrastructure already exist at KGS for gas conditioning. There is also capacity at the KGS to accept new supplies of gas.

Alternative Pipeline Routes

- 4.12 The Development seeks planning permission to effectively combine the majority of elements of two extant planning permissions; the Ryedale Gas Project and the Ebberston Moor 'A'-Knapton Gas Pipeline (further information on these schemes is provided in Chapter 3). A number of potential pipeline routes were assessed in the Environmental Statements which accompanied the planning applications for these schemes and the current proposed pipeline route for the Development is based on the preferred routes for these schemes. Moreover, planning permission was granted in 2012 and 2013/14 for these underground gas pipelines. Consequently, the need to identify alternative routes is not considered necessary.
- 4.13 The pipeline route does deviate in two places from the consented routes (this includes a section to the east and south of Warren House and a short section south of Givendale Head Farm). These new alignments are proposed because they are the shortest route to combine the two consented routes.
- 4.14 Minor tweaks have been made to the pipeline route, informed by results of the Strategic Woody Vegetation Survey (Appendix 7.4) and ecology surveys (see Chapter 6) to avoid identified important woodland and tree groups.

Alternative Designs and Design Evolution

- 4.15 The constraints on the Site include hedgerows, trees, drainage and topography, have informed the design of the Development. The considerations and constraints within the Site which have influenced the design evolution of the Development are set out in detail in Table 4.1.

Table 4.1: Key Considerations and Constraints

Category	Sensitive Receptor/Land Use
Residential/Buildings	<ul style="list-style-type: none"> • Settlements including: <ul style="list-style-type: none"> - Scamridge; - Allerston; - Yedingham; - Wilton and - Knapton. • Individual properties including; <ul style="list-style-type: none"> - High Scamridge; - Givendale Head Farm; - Warren House Farm; - The Elms; - Low Farm; - Newstead Grange;

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	<ul style="list-style-type: none"> - Wath House Farm; - Elm Tree Farm; - Grange Farm; and - Cliff Edge Farm.
Ecological Features	<ul style="list-style-type: none"> • Troutsdale and Rosekirk Dale Fens SSSI; • Nabgate SSSI; • River Derwent SAC and SSSI; • North York Moors SSSI, SAC and SPA; • Eller's Wood and Sand Dale SAC and SSSI; and • Flora and fauna within the Assessment Site and its vicinity.
Cultural Heritage	<ul style="list-style-type: none"> • Scheduled Monuments; • Listed Buildings; and • Archaeology.
Landscape and Views	<ul style="list-style-type: none"> • North York Moors National Park; • Wolds and Fringe of Moors Areas of High Landscape Value; • Dalby Forest; • Trees and hedgerows within and surrounding the Site; and • Views towards the Site.
Water Resources	<ul style="list-style-type: none"> • Ditches, drains, streams and the River Derwent within the Site; • Corallian aquifer;
Transport Infrastructure	<ul style="list-style-type: none"> • Vehicles, pedestrians and cyclists using local highway infrastructure including: <ul style="list-style-type: none"> - Ebberston Common Lane; - Ebberston Lane; - A170; - Wilton Ings Lane; - Marishes Lane; - B1258 Malton Road; - Unmarked roads; - Dalby Forest Drive; - Tabular Hills Walk; and - Public Rights of Way.
Noise	<ul style="list-style-type: none"> • Ebberston Common Farm; and • South Moor Farm;
Air Quality	<ul style="list-style-type: none"> • Ochre Farm; • Knapton Railway Cottages; • East Heslerton Row SSSI; • Difford Farm; • Knapton Lodge; • Wath House Farm; • Whitehall Farm; • Newstead Grange; • Crake Hall; • Carr House Farm; • Grange Farm; • Low Farm; • Wilton Carr House; • Green Howe, Wilton; • Warren House; • Cliff Edge Farm; • High Park Farm;

Category	Sensitive Receptor/Land Use
	<ul style="list-style-type: none">• Pheasant Hill;• Low Scamridge Farm;• Givendale Head Farm;• Troutsdale & Rosekirk Dale Fens SSSI;• Cockmoor Hall;• Broad Head Farm;• Hern Head House;• Nabgate SSSI;• Ellerswood & Sand Dale SSSI;• Ellerburn Bank SSSI; and• Seive Dale Fen SSSI