



# Willington C Gas Pipeline Preliminary Environmental Information

A report to support the initial consultation under The Planning Act 2008

June 2010

Version 1.2

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## Willington C Gas Pipeline – Preliminary Environmental Information

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1.0	04/02/10	Draft for internal use
1.1	26/04/10	Updated for initial consultation
1.2	18/06/10	Revised to reflect wider consultation corridor

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## Preface

In December 2009, RWE npower submitted an application to the Department of Energy and Climate Change, for consent, under Section 36 of The Electricity Act, for a new power station at Willington in Derbyshire. The proposed new power station (known as Willington C Power Station or WCPS) is gas fired and this scoping request relates to the gas pipeline to link it to the National Transmission System (NTS), which is the existing arterial system of large gas transmission pipelines, operated by National Grid.

The Willington C Gas Pipeline (WCGP) will require consent under The Planning Act 2008 and Environmental Impact Assessment (EIA) will be required under The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009. A feature of this planning regime is that consultation occurs in advance of the application and is carried out by the applicant.

This 'Preliminary Environmental Information' (PEI) is provided to inform the first stage of the pre-application consultation process. The PEI will be superseded by a draft version of the ES, once EIA studies have been undertaken, for the latter stages of the consultation.

The following further information relating to the WCGP can be found on the project website –

- Project Details Document
- Scoping Report
- Consent Strategy Document
- Willington Power Station Gas Supply, Environmental Appraisal Report (Mouchel 04/02/10)
- Willington Power Station Gas Supply, Route Corridor Selection Report (Mouchel 02/11/09)

Further information can be downloaded from the following website [www.rwenpower.com/willington](http://www.rwenpower.com/willington), or obtained by writing to the RWE npower Environmental Management Department using the contact details given on the previous page.

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## 1. Non Technical Summary

- 1.1 The Willington C Gas Pipeline project comprises a buried steel gas pipeline of between 28 and 30km in length. It will connect the proposed Willington C Power Station to the National Transmission pipeline system, in order to provide the fuel for the power station. It will be a cross-country pipeline, routed through agricultural land and avoiding centres of population. The pipeline will be dedicated to the Willington C Power Station and will not have any effect on any other gas infrastructure.
- 1.2 The indicative route corridor, the width of which allows for amendments during the EIA and detailed design stages, has been chosen following a study of other potential routes. It represents the shortest practical route and the route with the least environmental issues or has the potential to avoid issues. Flexibility within the route corridor will allow the pipeline to avoid woods, statutory designated wildlife sites and all scheduled ancient monuments identified by the desktop search. The application will show the final proposed pipeline position, a 30m construction corridor and also the 'limits of deviation' within which the Development Consent Order would apply, subject to the approval of the final route by the Infrastructure Planning Commission (IPC).
- 1.3 Detailed environmental studies of the route corridor will be carried out during the summer of 2010 and these will be used to help select the final route and also identify any special management that will be required in order to prevent environmental impacts. The scope of these surveys will be agreed with the local authority and the regulatory organisations that have responsibility for specific environmental aspects. The proposed scope of the environmental surveys and assessment can be found in the scoping report on the Willington C Power Station website.
- 1.4 The pipeline will require a Development Consent Order (DCO) under a new regime for 'Nationally Significant Infrastructure Projects' administered by the IPC. A feature of this system is the requirement for extensive consultation, both with the local authorities and statutory consultees and the public. This Preliminary Environmental Information (PEI) is provided as information to assist in the early stages of consultation. During 2010, environmental studies will be undertaken and the PEI will be superseded by a draft environmental statement which will form the basis of the main pre-application consultation.
- 1.5 The EIA process will identify potential environmental effects and mitigation measures will be proposed to avoid or reduce these. Management plans will be produced and agreed with the environmental regulators in order to ensure that environmental impacts are controlled and acceptable.
- 1.6 It is likely that the pipeline would be constructed in one season, during the summer months of the year although 'special crossings' such as the canals and railway lines would be completed in advance of the main work.
- 1.7 Following the installation of the pipeline, the land will be reinstated and returned to agriculture as soon as possible. Hedges will be replanted and other features reinstated on a 'like for like' basis.

## 2. Introduction

### 2.1. Introduction to the PEI

- 2.1.1. RWE npower is proposing to develop a natural gas pipeline, to be known as the Willington Gas Pipeline (WCGP) to be used to supply the fuel for the proposed power station on the former Willington A and Willington B Power Station site in Derbyshire. This PEI is provided to support the initial consultation on the project.
- 2.1.2 In December 2009, RWE npower plc (“RWE npower”) submitted an application to the Department of Energy and Climate Change, for consent, under Section 36 of The Electricity Act, for a new power station at Willington in Derbyshire. The proposed new power station (known as Willington C Power Station or WCPS) is gas fired and this PEI relates to the gas pipeline to link it to the National Transmission System (NTS). The NTS is the existing arterial system of large gas transmission pipelines operated by National Grid. The WCGP would be used solely to supply the power station and would not have any impact upon any other local gas supply infrastructure.

### 2.2. The Preliminary Environmental Information

- 2.2.1 The provision of ‘Preliminary Environmental Information’ at the consultation stage is not a requirement laid down in The Planning Act 2008, however there is a clear requirement to provide sufficient information to the consultees. RWE npower has decided to provide PEI at the early stage of the consultation and replace this with a Draft ES for the final pre-application stage of the process. This PEI is based upon the very limited desktop environmental searches carried out during the process to establish a route corridor and the environmental information, along with construction methodologies and typical mitigation measures can be found in the following report that is available on the WCGP website –
- Willington Power Station Gas Supply, Environmental Appraisal Report (Mouchel 04/02/10)
- 2.2.2 Guidance on the content of the PEI is provided in Part 1 of Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009. This document, along with the information contained in the Environmental Appraisal Report and the Project Details Document is designed to provide sufficient information for this preliminary consultation.

#### **Infrastructure Planning (EIA) Regulations 2009**

##### **SCHEDULE 4, PART 1**

**Section 17.** *Description of the development, including in particular—*

*(a) a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases;*

*(b) a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;*

*(c) an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc) resulting from the operation of the proposed development.*

**Section 18.** *An outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant’s choice, taking into account the environmental effects.*

**Section 19.** A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.

**Section 20.** A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:

(a) the existence of the development;

(b) the use of natural resources;

(c) the emission of pollutants, the creation of nuisances and the elimination of waste,

and the description by the applicant of the forecasting methods used to assess the effects on the environment.

**Section 21.** A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.

**Section 22.** A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.

**Section 23.** An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

### 2.3. The EIA and Consent Application Process

2.3.1 An informal EIA scoping exercise has been carried out with the key environmental scoping consultees. This will be followed by an application to the IPC for a formal scoping opinion.

2.3.2 The EIA baseline studies and assessments for the WCGP will take place during the summer of 2010, although it may be necessary to extend this if a requirement is identified for any winter surveys. A draft of the Environmental Statement will be produced and this, along with the other application documents, will form the basis of the later stage of the pre-application consultation which is a feature of the application

2.3.2 The EIA baseline studies and assessments for the WCGP will take place during the summer of 2010, although it may be necessary to extend this if a requirement is identified for any winter surveys. A draft of the Environmental Statement (ES) will be produced and this, along with the other application documents, will form the basis of the later stage of the pre-application consultation which is a feature of the application process required under The Planning Act 2008. Following the consultation process, the draft ES (and other application documents) will be finalised for submission. The IPC application process is described in the Wellington C Gas Pipeline – Consent Strategy Document which can be found on the WCPS website.

2.3.3 The application for consent for the WCGP is likely to be submitted in Q2 2011 and will take the form of an application to the Infrastructure Planning Commission (IPC) for a Development Consent Order under The Planning Act 2008.

## 3. Description of the Proposed Development

### 3.1. Guidance on the Necessary Information

3.1.1 The guidance (Schedule 4 part 1 of the EIA Regs) suggests that the following information be provided in the PEI –

**Section 17.** *Description of the development, including in particular—*

*(a) a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases;*

*(b) a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;*

*(c) an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc) resulting from the operation of the proposed development.*

### **3.2. Physical Characteristics**

3.2.1 The details of the proposed pipeline and the likely construction methodologies are contained in the Willington C Gas Pipeline Project Description Document and associated land plans that are available on the WCPS website.

### **3.3. Production Processes**

3.3.1 The WCGP is not a production process and this clause is not applicable.

### **3.4. Residues and Emissions**

3.4.1 The operation of the WCGP will not produce emissions to air, water, soils, light, heat or radiation.

3.4.2 The construction process is likely to involve the inspection of welds using X-ray technology. Control measures for the use of x-rays at any locations where there could be a risk to the public will be included in the ES.

3.4.3 The construction process will produce waste construction materials and also surplus excavated material. The construction project will require a Waste Management Plan (under the Waste Management Plans Regulations 2008) which will detail the ways in which waste will be minimised.

## **4. Alternatives Studied**

### **4.1. Guidance on the Necessary Information**

4.1.1 The guidance suggests that the following information is provided about alternatives –

**Section 18.** *An outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects.*

### **4.2. Alternatives Covered**

4.2.1 The WCGP is required to connect the WCPS with the National Transmission System (NTS). The process started with the identification of suitable locations for the Minimum Offtake Connection (MOC) point onto the NTS. At the connection location, it is necessary to have an Above Ground Installation or AGI and a route out of the AGI for the pipeline.

4.2.2 There are 3 potential gas pipelines to which the connection could be made and the search considered potential connection locations on a total of approximately 45km of pipeline route. These possible connection points extended from near Yoxall in the west to near Ashby de la Zouch in the east. The study also looked at entry points to the power station site.

- 4.2.3 These potential MOC connections gave indicative pipeline lengths in the range of 20km (shortest possible route) to 30km (longest route considered practical).
- 4.2.4 The next stage was to establish routes between the possible MOC sites on the NTS and the power station.
- 4.2.5 Route options were developed which satisfied the following primary criteria –
- The avoidance of centres of population as far as possible;
  - The observance of the building proximity distance specified in The Institute of Gas Engineers, Technical Document 1 (IGE/TD/1 Edition 5);
  - The avoidance of significant environmental statutory sites and non-statutory designated sites;
  - The avoidance of potentially difficult construction areas, such as severe side slopes, solid rock strata, low lying wet land and landfill; and
  - The avoidance of excessive distance.
- 4.2.6 Using these criteria, 25 possible route corridors were chosen as options to be evaluated.

### **4.3. Option Selection Process**

- 4.3.1 The 25 options were investigated and evaluated in a 3 stage process.
- 4.3.2 Stage 1 – This involved the use of a more detailed search using environmental information in a Geographic Information System (GIS). The following criteria were used to preclude certain options –
- Building proximity requirements associated with urban areas
  - Proposed developments
  - Registered parks and gardens
  - Active / inactive waste and landfill sites
  - Areas used or proposed for sand and gravel extraction
  - Sites of Special Scientific Interest
- 4.3.3 Stage 2 – This involved a more detailed review of the route corridor, looking at ‘sectors’ where issues had been identified in Stage 1. A comparative exercise was then undertaken using the following criteria –
- Nature conservation
  - Woodland
  - Geology
  - Landscape
  - Cultural Heritage
  - Land use

### **4.4. Environmental Effects of Options (Environmental Appraisal)**

- 4.4.1 Stage 3 of the evaluation process involved looking in more detail at the shortest corridors remaining after the elimination process of Stage 2. A total of 4 route corridors were evaluated, one being to the west of Burton-on-Trent, the other three options were all to the east of Ashby de la Zouch. All other options in between these connection points had been eliminated, predominantly because of the extensive development and settlement that occurs around Burton-on-Trent and Swadlincote.

4.4.2 The 4 remaining route corridors were assessed in detail against the same criteria used in Stage 2. The comparison of the 4 corridors is contained in table 4.1 of the report by consultants Mouchel 'Willington Power Station Gas Supply, Environmental Appraisal Report' (dated 04/02/10) which can be found on the WCPS website.

4.4.3 Route corridor option RC1 was selected at this stage as it was considered the shortest route corridor under consideration which also (through the desktop evaluation) had the least potential for impacts upon designated areas. The other 3 potential route corridors were considered to be significantly more restricted by environmental constraints.

#### 4.5. Refinement of the Corridor

4.5.1 The Stage 3 evaluation process resulted in the selection of a general route corridor starting south of Yoxall and running to the west of the A38. The corridor was up to 5km wide and it was necessary to refine the corridor for the EIA and consultation process.

4.5.2 The refinement was carried out using the desktop environmental information with the objective of establishing a 1km corridor. This corridor would either exclude environmental constraints, or for constraints that remained within the 1km corridor, gave an opportunity for these to be avoided.

4.5.3 Within the 1km corridor, an indicative route corridor was identified, avoiding as many environmental features as possible. Landowners have been contacted within this indicative corridor and environmental studies are underway which will be used to inform the final choice of the pipeline route.

4.5.4 A comparison between the General Western Route Corridor and the indicative route corridor is given in Table 1.

## 5. Description of Environmental Aspects

### 5.1. Guidance on the Necessary Information

5.1.1 The guidance suggests the following information is provided regarding the environmental aspects of the project -

**Section 19.** *A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.*

### 5.2. Desktop Environmental Information

5.2.1 The desktop search of environmental information which was used in the Environmental Appraisal of the route options can also be used to identify features of the chosen route which may give rise to environmental effects. The desktop information is summarised in Table 1 and can be viewed on the following EAR figures that relate to the chosen western route corridor –

- Figures 10 – 13 : Stage 3 Environmental Constraints (Route Corridor 1)
- Figures 18 – 21 : Land Use Constraints (Route Corridor 1)

**Table 1 Summary of Desktop Environmental Information for the Western Route Corridor and the indicative route corridor**

	Western Route Study Corridor	Likely sites impacted by the Indicative Pipeline Route Corridor
<b>Nature Conservation</b>		
SSSI	The Old Dove River SSSI	None
SPA/SAC/RAMSAR/NNR/Biosphere NNR/LNR	None	None
Non-statutory Wildlife Sites (County / District / Parish WS)	40+ NSES are found within the study corridor (See Figures 11, 12 and 13 in the Environmental Appraisal Report)	Approximately 11 non-statutory sites are present within the 1km corridor. The indicative corridor avoids all or most of these, with the exception of 2 linear sites (The B5238 Corridor and the Burton Old Railway Line). In both cases the pipeline is likely to be bored underneath these sites.
<b>Woodland</b>		
Ancient Woodland	9 sites within the study corridor	None
National Forest Woodland	5 (or more) existing sites within the study corridor	None
<b>Geology</b>		
RIGS	None	None
<b>Landscape</b>		
National Park / AONB	None	None
<b>Cultural Heritage</b>		
Reg Battlefields, RPGs, World Heritage Sites	None	None
Scheduled Ancient Monuments	4	None
Conservation Areas	6	1 Conservation area (the Trent and Mersey Canal Conservation Area) which is a linear feature. The pipeline would be drilled underneath the canal involving no work within the conservation area.
<b>Land Use</b>		
Sand and Gravel extraction	Extensive extraction within the Trent and Dove Valleys	The corridor contains both active and planned mineral extraction areas and worked sites that have been reinstated to agriculture north of Egginton.

Coal Mining Active or Former	None	None
Mining	The Tutbury sulphate seam affects this area and the Fauld mine extracts gypsum and anhydrite (EAR Figure 20) around Barton-under-Needwood and Rangemore.	The corridor contains areas of both active and consented gypsum mining
Active / Inactive Landfill	Landfill associated with former mineral extraction sites	There are no active landfill sites in the corridor
Proposed major new developments	Severn Trent at Egginton Common, TNT north of Willington and the Football Association at Byrkley Park	The corridor avoids the Football Association development and would allow the pipeline to be routed around the others.
Airfields	Derby Airfield and Tattenhill Airfield	Derby Airfield is on the northern edge of the corridor.
Flood Zones 2 and 3	The flood plain of the River Trent and the flood plain of the river Dove and Hilton Brook.	The corridor starts close to the edge of the River Trent flood plain. Approximately 4km of the pipeline route is in zones 2 and 3 between Egginton and Rolleston on Dove.

5.2.2 The proposed route corridor has been chosen to avoid impact upon SSSIs, ancient woodlands or Scheduled Ancient Monuments (SAMs). Two non-statutory wildlife sites form a linear feature that cannot be avoided. This is a former railway line and it is proposed that the pipeline would be installed here by the use of 'trenchless' methodology, although it is likely that access over the section would be required for construction traffic.

5.2.3 The pipeline route corridor affects the following Local Authority Areas –

- Staffordshire County Council
- East Staffordshire Borough Council
- Derbyshire County Council
- South Derbyshire District Council

5.2.3 The start point of the pipeline is very close to be boundary of Lichfield District Council (Kings Bromley Parish) and part of the corridor goes over the parish boundary. Lichfield District Council will be consulted as a neighbouring local authority and Kings Bromley will be included in the parish councils (PC) to be consulted.

5.2.4 The parishes that are affected by the pipeline corridor are –

- Willington PC
- Twyford and Stenson PC
- Findern PC
- Egginton PC

- Rolleston on Dove PC
- Tutbury PC
- Anslow PC
- Tatenhill PC
- Dunstall PC
- Barton-under-Needwood PC
- Wychnor PC
- Yoxall PC
- Kings Bromley PC

### **5.3. Population**

5.3.1 The route corridor for the WCGP has been chosen to avoid centres of population and dwellings with the route predominantly travelling through rural, agricultural land. Residents of local communities are likely to be receptors whilst travelling across the pipeline corridor, where they could experience construction traffic and visual impacts.

### **5.4. Fauna and Flora**

5.4.1 The pipeline construction will result in a temporary loss of vegetation along a strip of between 28 and 30km in length and up to 30m in width. The width of the strip will increase at locations such as road crossings, where additional room is required to facilitate the engineering work. The route will attempt to avoid woodland and any locally designated areas. Most of the area affected by construction work will be agricultural land and therefore it is anticipated that most impacts will be associated with field boundaries and non-crop areas and features (such as ditches, verges and ponds) which have more potential as wildlife habitats.

5.4.2 The pipeline will result in the permanent loss of any trees within the construction strip and the temporary loss of any other vegetation, which would be re-planted following construction.

5.4.3 The pipeline corridor includes several rivers and a canal that would need to be crossed and other brooks and ditches that it may be necessary to cross. It is proposed that all river / canal crossings would be undertaken by Horizontal Directional Drill avoiding any direct work in the watercourse.

5.4.4 Two non-statutory wildlife sites form linear features across the corridor. These are a disused railway line and a roadside corridor. It is proposed that the pipeline be installed by trenchless techniques without the need for excavations at these locations.

### **5.5. Soil**

5.5.1 The pipeline construction work will involve the stripping of topsoil across a construction strip up to 30m in width. This topsoil will be stacked within the strip. Pipeline construction has the potential for the loss of topsoil through water and wind erosion and the potential for damage to top and subsoil from construction traffic and soil handling under unsuitable conditions.

5.5.2 Subsoil will be excavated in order to form the pipeline trench and it is assumed that surplus excavated material will be exported from the site – although this will be at the discretion of the landowner.

- 5.5.3 Following the construction period the proposal is that soils will be replaced and the land reinstated to its pre-construction condition. This will include the removal of any compaction, the reinstatement of land drainage and an after care plan agreed with the landowner to ensure that the fertility of the land is restored.
- 5.5.4 The construction of the pipeline has the potential to sterilise sand and gravel reserves. The potential for sterilization is normally minimised by routing the pipeline around the periphery of working areas or through areas that have already been worked and reinstated.
- 5.5.5 The corridor includes both consented and active gypsum and anhydride mining. RWE npower will consult with the mineral owners during the development of the final route.

## **5.6. Water**

- 5.6.1 The potential impacts on water from the construction of the pipeline can be divided into surface and ground water.

## **5.7. Surface Water**

- 5.7.1 The pipeline route will cross a number of rivers, brooks, ditches, a canal and a large number of drainage ditches. The major crossings will be carried out by 'trenchless' technology and the working strip will stop at either side of the river. Smaller watercourses and ditches are likely to be 'open cut'. This normally involves damming the ditch and over-pumping while the pipeline is installed. A temporary bridge (or pipe flume) would be constructed over the ditch for the construction vehicles.
- 5.7.2 Water crossing and works in close proximity to watercourses create the potential for pollution due to suspended solids being released through the work in the watercourse or through run-off of silt laden water from the construction strip.
- 5.7.3 Land drainage pipes will be severed by the pipeline excavation of the pipeline trench and will be reinstated following the completion of construction.

## **5.8. Ground Water**

- 5.8.1 The pipeline construction work involves trenching approximately 2m below ground level across normal land and boring deeper under obstructions, such as roads. The work could have a potential for impacts upon shallow groundwater.

## **5.9. Air and Climatic Factors**

- 5.9.1 The project is not expected to have any impact on air quality or climatic factors. Construction works can give rise to dust emissions under dry, windy conditions but mitigation measures can be applied to prevent this environmental aspect.

### 5.10. Archaeology

- 5.10.1 The pipeline construction work will involve the stripping of topsoil over the pipeline length of up to 30m in width and trenching for a depth of approximately 2m. This work has the potential to impact upon any archaeological assets within the construction strip. The routing of the pipeline avoids any SAMs or other designated assets (other than the Trent and Mersey canal conservation zone) and emphasis will be put on avoidance of any assets identified during the EIA. Plans will be put in place to protect both known and unknown assets which may be encountered by the work.
- 5.10.2 4 SAMs were identified in the study corridor and the indicative pipeline corridor avoids all of these. Of the 6 Conservation Zones found in the study corridor, only 1 (the Trent and Mersey Canal) affects the indicative corridor.

### 5.11. Landscape

- 5.11.1 The pipeline is not expected to result in a permanent loss of landscape value or permanent visual impact. The only permanent change would occur if the pipeline construction corridor includes trees which have to be felled or other features that cannot be reinstated. The planting of large trees is not allowed within 3m of the pipeline because of potential damage by roots and the need for access to inspect the pipeline. All hedges will be reinstated and the land will be restored to its pre-construction condition. Where the pipeline crosses a road, the minimum amount of hedge required to provide the necessary visibility will be removed.
- 5.11.2 Landscape and visual impacts are minimised by the selection of a route that is predominantly located in agricultural land that can be fully reinstated relatively quickly.
- 5.11.3 During the construction period, which would normally be one summer, there will be temporary landscape and visual impacts. The construction strip will create a linear feature across the landscape that will be visible from some residential properties and footpaths. Motorists, using roads that cross the pipeline construction strip are likely to be largest group of receptors.
- 5.11.4 The actual construction activities at any location tend to be relatively short in duration and are unlikely to cause any significant visual impacts.

### 5.12. The Inter-relationship of Environmental Aspects

- 5.12.1 At this stage, the pipeline route corridor that has been chosen represents the route option with the least potential for environmental impacts. The selection of the final route will also aim to minimise impacts and will be made following the baseline environmental surveys. At this stage it may be necessary to consider the inter-relationships of impacts for route options.

## 6. Likely Significant Effects

### 6.1. Guidance on the Necessary Information

**Section 20.** *A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:*

*(a) the existence of the development;*

(b) the use of natural resources;

(c) the emission of pollutants, the creation of nuisances and the elimination of waste,

and the description by the applicant of the forecasting methods used to assess the effects on the environment

6.1.1 The scoping of the EIA is focused on the 'likely significant effects' of the project. In many cases, significant effects would be expected if works were not managed in order to prevent impacts. The purpose of the EIA is to identify potential impacts and either avoid or mitigate these in such a way so that no significant effect occurs.

6.1.2 The likely effects of the development are summarized in Table 2.

**Table 2 Summary of Likely Significant Environmental Effects**

Environmental Aspect	Type of Likely Effect	Details	Residual effect following mitigation
<b>Impacts to surface water</b>	Small Scale, Temporary, Short Term (Construction phase only)	Construction works in and close to watercourses have the potential for impacts due to the physical work and the introduction of suspended sediments. Pollution by oil from construction equipment will be controlled by the application of standard mitigation measures. Mitigation measures will be applied to all works to prevent significant effects.	Not expected to be significant
<b>Impacts to ground water</b>	Small scale, Temporary, medium term (Construction and possibly operation)	The creation of a pipeline trench has a potential to interrupt shallow ground water and interfere with springs. Mitigation measures, such as damming the trench will be applied where ground water is encountered	Not expected to be significant
<b>Impacts to Birds</b>	Small Scale, Temporary, Short - Medium Term (Construction + restoration phases)	Direct impacts on birds will be avoided by carrying out vegetation clearance outside the nesting period. Indirect impacts could occur through the loss of habitat. All hedges will be reinstated, but it could be 5-10 years before these represent nesting habitat.	Not expected to be significant
<b>Impacts to Protected Species</b>	Small Scale, Temporary, Short Term (Construction phase)	Depending upon the result of protected species surveys, mitigation measures will be applied to prevent impacts to protected species.	Not expected to be significant
<b>Landscape and Visual</b>	Local, Temporary, Short Term (Construction and restoration phases)	During the construction year, the construction strip will have an impact upon the landscape and the construction activity will have a visual impact for local residents, walkers and motorists. The works will continue to have a small visual impact until the hedges are fully restored.	Not expected to be significant
<b>Traffic and Transport</b>	Local, Temporary, Short Term	During the construction period, traffic will be generated by the deliveries of materials	Not expected to be significant

Environmental Aspect	Type of Likely Effect	Details	Residual effect following mitigation
	(Construction phase only)	and equipment and also by construction staff. Impacts may also be caused where the pipeline construction strip crosses roads, although it is proposed to use trench-less technology to install the pipeline at road crossings.	
<b>Cultural Heritage</b>	Permanent loss of assets through construction work	The route of the pipeline will aim to avoid any known features and an desktop assessment and walkover carried out. An appropriate scheme of investigations will be agreed and an appropriate protection plan for any features.	Not expected to be significant
<b>Noise and Vibration</b>	Temporary, Short Term (Construction only)	Construction work tends to be relatively short term at any one location and the route of the pipeline aims to avoid communities so that receptors are limited.	Not expected to be significant

6.1.3 In terms of the use of natural resources, the main resources to be used are steel pipe and bedding sand. The quantities of resources being used has been minimized by the route selection process. The route corridor is the shortest of the routes that were evaluated and will consume the least amount of resources.

6.1.4 The operation will not create the emission of pollutants. Pollution could be caused accidentally during the construction process and control measures will be put in place to prevent such an occurrence.

6.1.5 Waste minimization will be addressed during the detailed design and construction planning process. The chosen route is the shortest of the options considered and the waste generated by the project will be minimized as result. The only significant waste stream is likely to be the surplus excavated material. Waste generation is addressed in the Environmental Assessment Report (Table 6.1) which can be found on the WCGP website.

6.1.6 During the construction phase all monitoring of effects on the environment would be through the Project Environmental Management Plan. Restoration work completed post construction of the construction strip will be monitored until complete.

## 7. Description of Measures to Prevent / Reduce Significant Environmental Effects

### 7.1. Guidance on the Necessary Information

**Section 21.** A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.

### 7.2. Measures to Minimize Significant Adverse Effects

7.2.1 The process to minimize the potential impacts on the environment started in the route selection process and will continue through the EIA, the finalization of the route, during construction and through the restoration of the strip.

7.2.2 A summary of measures to minimize environmental effects is contained in Table 3

- 6.1.3 In terms of the use of natural resources, the main resources to be used are steel pipe and bedding sand. The quantities of resources being used has been minimized by the route selection process. The route corridor is the shortest of the routes that were evaluated and will consume the least amount of resources.
- 6.1.4 The operation will not create the emission of pollutants. Pollution could be caused accidentally during the construction process and control measures will be put in place to prevent such an occurrence.
- 6.1.5 Waste minimization will be addressed during the detailed design and construction planning process. The chosen route is the shortest of the options considered and the waste generated by the project will be minimized as result. The only significant waste stream is likely to be the surplus excavated material. Waste generation is addressed in the Environmental Assessment Report (Table 6.1) which can be found on the WCGP website.
- 6.1.6 During the construction phase all monitoring of effects on the environment would be through the Project Environmental Management Plan. Restoration work completed post construction of the construction strip will be monitored until complete.

**Table 3 Summary of Measures to Prevent / Reduce Significant Environmental Effects**

Phase	Measures	Details
<b>Route Corridor Evaluation</b>	Desktop search - Avoidance	A desktop search was carried out to identify any designated areas and major environmental sensitivities so that routes which avoided likely significant environmental effects could be eliminated at a very early stage.
<b>Pipeline Route Corridor Selection</b>	Evaluation and comparison of options – Minimisation of impacts	Using the desktop environmental information, routes that had not been eliminated were evaluated and compared so that the chosen route corridor had the least likelihood of creating significant environmental effects.
<b>EIA Studies and consultation</b>	Studies to provide detailed environmental information for the final route choice and the need for mitigation measures	The EIA studies are focused on potential significant impacts. Where potential significant impacts are identified, measures to avoid or minimise the impact will be considered. Where possible, primary mitigation will be provided through amending the route top avoid the impact. Where this is not possible, mitigation measures will be proposed by the environmental consultant. The relevant authorities will be consulted on the proposals during this phase
<b>Final Route Selection</b>	Using the EIA information to avoid impacts	Where possible, (within the identified corridor) the final route will be amended to avoid any significant environmental impacts that have been identified through the EIA.
<b>Agreement of consent conditions</b>	Planning conditions securing the approval of mitigation measures	Consultees will require conditions to be attached to the consent requiring the approval of mitigation plans
<b>Pre-</b>	Environmental	Environmental management plans will be developed and

Phase	Measures	Details
<b>construction planning</b>	Management and Mitigation plans	<p>where these are the subject of consent conditions, these will be submitted for approval. It is assumed that plans will be required for the following –</p> <ul style="list-style-type: none"> <li>• Project Environmental Management Plan</li> <li>• Protected Species mitigation plans (as necessary)</li> <li>• Pollution prevention plan</li> <li>• Water Management Plan</li> <li>• Soil handling / management plan</li> <li>• Transport Management Plan</li> <li>• Archaeological investigations and protection plans</li> <li>• Noise monitoring plan (if required)</li> <li>• Protection of Public Rights of Way plan</li> <li>• Emergency Response Plan</li> <li>• Waste Management plan</li> <li>• Restoration and aftercare plan</li> </ul>
<b>Pre-construction approvals</b>	The discharge of planning conditions through the approval of plans	In addition to the approval of plans, further consents will be obtained at this time. These will include Flood Risk consents from the EA, Roads and Streetworks licences from the highway authority and if necessary, protected species licenses.
<b>Pre-construction mitigation work</b>	Surveys and advance mitigation	<p>Some protected species surveys will have to be repeated before mitigation plans are put in place and construction work starts. Early work is likely to include –</p> <ul style="list-style-type: none"> <li>• Strimming of ditches to prevent water voles nesting</li> <li>• Removal of hedges and other vegetation on the construction strip in advance of the birds breeding season or netting of hedges</li> <li>• Erecting of GCN fencing and strip searches</li> <li>• Archaeological investigations (if required)</li> <li>• Footpath protection work</li> </ul>
<b>Construction management</b>	Implementation of agreed environmental management, mitigation and monitoring measures	<p>During the construction phase, the agreed plans will be followed –</p> <ul style="list-style-type: none"> <li>• The implementation of the Environmental Management Plans and appropriate monitoring</li> <li>• The provision of an environmental manager / clerk of works</li> <li>• Monitoring of adherence to agreed methodologies / best practices</li> <li>• The archaeological supervision (if required)</li> </ul>
<b>Post-construction</b>	Efficient and effective restoration	Upon completion construction and testing, the restoration plan will be implemented to replant the hedges and restore the land to its pre-construction condition. Aftercare includes the restoration of fertility, weed control in hedges, the maintenance of fences and the on-going maintenance of land drainage.

## 8. Non Technical Summary

### 8.1. Guidance on the Necessary Information

**Section 22** *A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.*

- 8.1.1 The Non Technical Summary (NTS) required by the guidance has been provided in section 1 of this document.

## 9. Information Gaps

### 9.1. Guidance on the Necessary Information

**Section 23.** *An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.*

### 9.2. Information Gaps in the PEI

- 9.2.1 This PEI has been prepared in advance of EIA studies and is based on a very limited search of desktop information and an indicative route and prediction of 'typical' construction methodologies. It is designed to be read along with the other information on the WCGP section of the WCPS website in order to provide information to inform the environmental scoping and early pre-application consultations.

- 9.2.2 It is proposed that the PEI will be superseded with a Draft Environmental Statement following the completion of the environmental studies. The draft ES will then form the basis of the main pre-application consultation process.

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