Environmental Impact Assessment Scoping Report

Proposed Tilbury C Combined Cycle Gas Turbine Power Station

July 2010

Submitted to the IPC under Regulation 8 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009
Preface

I. This scoping report is submitted to the Infrastructure Planning Commission (IPC) under Regulation 8 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 accompanied by a request for a scoping opinion. The scoping report contains a brief description of the nature and purpose of the development and of its possible effects on the environment, and a plan sufficient to identify the land. RWE npower has provided copies of the scoping report to statutory and non-statutory consultees which are listed in Appendix A and B of this report. The consultees will be contacted by the IPC to ask for their scoping opinions, which are likely to include information they consider should be provided in the environmental statement, or to state that they do not have any comments.

II. RWE npower is proposing to develop a new combined cycle gas turbine (CCGT) power station on the Tilbury Power Station site in Thurrock. The proposed new gas station would be known as Tilbury C. This proposal to build a gas fired power station replaces the previous proposal, announced in March 2007, to build a supercritical coal fired power station at the site. This change occurred following a review of the current UK regulatory position regarding generating plant.

III. The current operational power station on the site (Tilbury B) is a coal fired power station built during the 1960’s. Under the Large Combustion Plant Directive Tilbury B is due to close by 2015 and it is proposed to replace its electricity generating capacity with a new gas-fired power station. The Tilbury site presents an ideal location for the new power station and offers several benefits including nearby gas connection, cooling water supply, and on-site connection to the National Grid.

IV. Between 2007 and the November 2009 environmental impact assessment (EIA) studies were undertaken into developing a supercritical coal fired power station on the Tilbury site. To this extent, a large amount of environmental survey work has been carried out on the power station site and surrounding area. The relevant data sets from the baseline studies will be used in the EIA for the proposed gas station and are listed in the relevant sections in this report. The clear identification of the baseline will enable design and development of the new station in a way that minimises environmental impact.

V. Comments on the current proposals are invited to ensure that the environmental evaluation is comprehensive and to further ensure that all of the likely potential impacts can be considered fully and evaluated effectively by the relevant competent authorities and regulators.

VI. The proposed plant will be a CCGT power station. This is an efficient process of electricity generation where the waste heat generated during the initial stages of electricity generation, via the gas turbine, is used to make steam to generate additional electricity via a steam turbine. The station will be
The application will also include a new gas pipeline spur approximately 3km long to connect the station into the existing National Grid gas pipeline located to the east of the application site. In addition, the application will also include the removal of the overhead lines which connect the EDF substation in the north west of the site to the existing B station, and the installation of underground cables to replace them.

The power station will have a main plant capacity of approximately 2000 megawatts (MW). In addition, there will be up to 400MW of open cycle gas turbine (OCGT) capability at the station. The station is expected to achieve an efficiency of up to 59%, in line with other new CCGT plants that have been developed. The plant will be built to Best Available Techniques (BAT) and configured to allow for the installation of carbon capture and storage technology when this becomes technically and commercially available.

The new power station would be constructed within RWE npower’s current land holding at the existing Tilbury site. There is sufficient space for the new power station to be built whilst the B station is still present on-site. The main units of the two power stations will not operate commercially simultaneously.

This scoping report is submitted to the Infrastructure Planning Commission (IPC) under Regulation 8 of The Infrastructure (Environmental Impact Assessment) Regulations 2009. The report requests an opinion on the scope of environmental issues that consultees believe may lead to potentially significant environmental impacts that should be assessed within the EIA.

During the scoping process the IPC will consult with a range of statutory consultees to obtain their views on the proposals. A list of statutory consultees which RWE npower anticipates will be consulted by the IPC are listed in Appendix A. Appendix B lists the non-statutory consultees which may be consulted by the IPC. Please note that neither list is comprehensive and may be subject to change.

Once the EIA has been undertaken a consent application for the proposed development will be made to the IPC. It is currently anticipated that the ‘formal application’ will be made in Q4 2010. This will take place after a full and comprehensive programme of engagement and consultation with local authorities, communities, and relevant regional and national bodies. A Preliminary Environmental Information (PEI) document will be produced which will be made available during the consultation process to aid and promote a good understanding of the environmental aspects of the proposed development.

A wide ranging consultation programme will be undertaken with local communities, regulators and other stakeholders to inform them of the proposals as they develop and to obtain feedback. If consent is obtained it is anticipated that site enabling works for the construction of the new units could commence in 2012, with the station fully commissioned by 2016.
XIV. Copies of the Scoping Report can be downloaded from the website at www.rwenpower.com/tilbury or obtained by writing to RWE npower using the contact details below:

Tilbury CCGT Project  
RWE npower  
Windmill Hill Business Park  
Whitehill Way  
Swindon  
SN5 6PB
## Contents

1. Introduction  
   1.1. Consenting Strategy  
   1.2. Background Information on RWE npower  
2. The Need for the Development  
   2.1. National Energy Policy  
   2.2. UK Generation Capacity  
3. Legislation and Consent Requirements  
   3.1. Development Consent Order  
   3.2. Environmental Permit  
   3.3. Other Relevant Legislation  
4. The Proposed Development  
   4.1. Introduction  
   4.2. Location  
   4.3. The Proposed Plant  
   4.3.1. Description of the Process  
   4.4. Access to the Site  
   4.5. Grid Connection  
   4.6. Combined Heat and Power  
   4.7. Carbon Capture Ready  
   4.8. IGCC Conversion  
   4.9. Timeline  
5. The Existing Environment  
   5.1. Site Location and Surrounding Land Use  
   5.2. Development History of the Site  
6. Proposed Approach to the Environmental Impact Assessment  
   6.1. General Approach  
   6.2. Scoping  
   6.3. Consultation Process  
   6.4. Scope of the EIA  
   6.5. Planning Policy Context  
   6.6. Air Quality  
   6.7. The Aquatic Environment  
   6.8. Ground Conditions and Hydrology  
   6.9. Flooding  
   6.10. Terrestrial Ecology  
   6.11. Landscape and Visual Effects  
   6.12. Noise and Vibration  
   6.13. Transport  
   6.14. Socio-Economic Effects  
   6.15. Cultural Heritage  
   6.16. Cumulative Impacts  
   6.17. Health, Safety and Security  
7. Summary
Figures

Figure 1  Current Tilbury B site 8
Figure 2  Preliminary layout for Tilbury C 13
Figure 3  Area through which proposed gas pipeline may pass to connect to gas main 16
Figure 4  Typical schematic diagram of main generating plant: Tilbury C 17
Figure 5  Projected timescale for the development 19
Figure 6  Two dimensional model grid of the tidal River Thames 28
Figure 7  Mid-field model grid and bathymetry of the River Thames 29
Figure 8  Flood map for the Tilbury power station site (Environment Agency 2008) 31
Figure 9  Designated sites within 10km of Tilbury power station 33
Figure 10 Landscape viewpoint locations 37
Figure 11 Photograph showing the existing Tilbury B power station from Fort Road, Tilbury 39
Figure 12 Photomontage showing the proposed CCGT station at the Tilbury site, with Tilbury B in the background, from Fort Road, Tilbury 39
Figure 13 Photograph showing the existing Tilbury B power station from Windmill Hill, Gravesend 40
Figure 14 Photomontage showing the proposed CCGT station at Tilbury, with Tilbury B in the background, from Windmill Hill, Gravesend 40

Tables

Table 1  Designated ecological sites within the vicinity of the proposed Tilbury C site 32
Table 2  Known features of ecological interest within the application site 35
1. **Introduction**

1. RWE npower is proposing to build a new gas-fired power station within its landholding on the Tilbury B power station site in Thurrock. This proposal to build a gas fired power station replaces the previous proposal, announced in March 2007, to build a supercritical coal fired power station at the site.

2. RWE npower had been developing plans for a new state of the art coal fired power station at the Tilbury site since 2007. However, RWE npower now wishes to develop a gas fired power station with the potential to convert to coal fed (Integrated Gasification Combined Cycle) generation at a future date.

3. RWE npower believes that coal has an important role to play in the UK’s energy mix provided the issue of carbon dioxide (CO₂) in emissions is addressed by parallel Carbon Capture and Storage (CCS) development. This technology is not currently technically feasible or economic.

4. The existing coal fired power station known as Tilbury B, is due to close as it has been opted out of the Large Combustion Plant Directive. Under these regulations, from 1st January 2008, Tilbury has been restricted to 20,000 hours operation; at the end of which, or by 31 December 2015, whichever is sooner, the plant must close. It is currently anticipated that Tilbury B will complete its 20,000 hours operation during 2013, although the exact timing cannot be predicted as it will be dependent on a variety of external factors. The existing B station and surrounding site is shown in Figure 1.

5. RWE npower is proposing to replace Tilbury B by developing a new Combined Cycle Gas Turbine (CCGT) power station that would have a generating capacity of approximately 2000MW. The new power station will be known as Tilbury C. In a similar way that the original Tilbury A station plant buildings remained on site alongside the much newer Tilbury B power station for a period after closure, Tilbury B plant buildings shall remain alongside the new compact Tilbury C structures.

6. A new underground gas pipeline spur will be constructed to supply gas to the station from the main, located approximately 3km from the site. The gas pipeline will be included as associated development within the application for development consent.

7. The 132Kv power lines and associated pylons which connect the EDF substation in the north west of the site will be removed as part of the construction of the C station, and will be replaced by underground cabling which will follow the line of the new access road into the site.

8. In addition, a new Tilbury Energy and Environment Centre shall be built towards the north of the main operational plant. The new centre will replace the existing facility which will be demolished to make way for the proposed new gas station.
1.1. *Consenting Strategy*

9. The proposed Tilbury CCGT plant will be a nationally significant infrastructure project as defined by The Planning Act 2008. It is RWE npower’s intention to submit a consent application for the CCGT station to the Infrastructure Planning Commission (IPC) under Part 5 of the Planning Act 2008. It is expected that this application shall be made during 2010. Scoping is an early stage in the consenting process and this request for a scoping opinion for a CCGT plant and associated gas pipeline is made to the IPC. Whilst the site will be designed to allow a future option of installing gasification equipment, the design and implementation of any such features will be subject to a separate future planning consent application.

10. Work on the previous development proposals for a supercritical coal fired power station at Tilbury included consultation with statutory and non-statutory consultees, together with local public exhibitions. A large amount of environmental survey and modelling work has been completed for the site and its immediate area. These data sets will be used, where appropriate, during the development process for the gas station. Given that the overall scale of development and environmental impacts are expected to be less for a CCGT station, the scope and methodologies agreed during previous consultations will generally form the basis of the assessment for the proposed CCGT station. Data sets will be extended as required to accommodate a full assessment of the gas pipeline. It is recognised that there may be new issues specific to the proposed CCGT plant and associated pipeline and therefore further feedback and comments received through this request for a scoping opinion will be considered.

11. Detailed consultation will be undertaken on the proposals before a formal application for consent is submitted to the IPC. This consultation process is described in section 6.3.

1.2. *Background Information on RWE npower*

12. RWE npower plc (“RWE npower”) a division of the RWE Group since 2002, is a major owner and operator of power stations in the UK. The company is also the third largest supplier of electricity and gas in the UK with around 6.9 million customer accounts.

13. RWE npower currently operates a portfolio of over 10GW of fossil-fuel fired power stations (coal, gas, oil) in England and Wales. The existing Tilbury B coal station currently has a generating capacity of approximately 1400MW and can power up to 1.4 million homes, playing an essential role in providing secure energy supplies for the UK. RWE npower is also one of the most experienced companies in terms of constructing and operating CCGTs and currently operates three CCGT power stations in the UK (Didcot B in Oxfordshire, Little Barford in Cambridgeshire and Great Yarmouth in Norfolk). Construction is underway at two further sites, Staythorpe in Nottinghamshire and Pembroke in South Wales.
14. RWE npower renewables, part of RWE Innogy, the Group’s renewable energy business, currently operates a wind power portfolio of over 400MW and a hydro portfolio of approximately 65MW.
Tilbury B site areas:

1. Main access
2. Tilbury energy and environment centre
3. Lytag brownfield wildlife site
4. National Grid substation
5. Tilbury B power station
   a. Coal storage area
   b. Boiler house
   c. Electrostatic precipitators
   d. Turbine hall
   e. Tilbury B administration and office building
6. Jetty
7. Former A station administration and office block
8. Old cricket field
9. Anglian Water treatment works (off-site)
10. Coal unloaders
2. The Need for the Development

2.1. National Energy Policy

15. In November 2009 the Government released the Draft Overarching National Policy Statement (NPS) for Energy (EN-1) which sets out the Government’s policy for delivery of major new energy infrastructure in England and Wales. It has been issued alongside five technology specific NPSs, of which the Draft NPS for Fossil Fuel Electricity Generating Infrastructure (EN-2) is relevant to this proposal.

16. The NPSs provide the IPC with guidance in determining applications for Orders Granting Development Consent. EN-1 in particular describes the government’s energy and climate change strategy, and defines the need for major new energy infrastructure.

17. The policies within EN-1 reflect the UK Low Carbon Transition Plan (DECC, 2008) which sets out a detailed low carbon transition plan to 2020. Underlying the climate change strategy is a legally binding target of cutting 80% emissions by 2050 compared to 1990 levels, set in legislation by the 2008 Climate Change Act. The Government’s five steps to meet this target are:
1. Protecting the public from immediate risk
2. Preparing for the future
3. Limiting the severity of future climate change through a new international agreement
4. Building a low carbon UK including: cutting emissions, maintaining secure energy supplies, maximising economic opportunities, and protecting the most vulnerable
5. Supporting individuals, communities, and businesses to play their part.

18. EN-1 also establishes a significant need for new major energy infrastructure over the next 10-15 years, partly due to the closure of a large number of existing oil, coal and nuclear stations. It projects that 22GW of existing electricity generating capacity will close within the next 1-15 years, and will thus require replacing. It also identifies that although demand for electricity generation in 2020 is likely to be similar to 2009 levels, beyond this date the decarbonisation of heat and transport may result in the need for greater national generating capacity.

19. EN-1 states ‘Government has therefore concluded that there is a significant need for new major energy infrastructure which will have to be met by projects coming through quickly given that developments such as nuclear power stations have very long lead times’ (EN-1). It also says that ‘the IPC should start its assessment of applications for infrastructure covered by the energy NPSs on the basis that need has been demonstrated’ (EN-1).

20. The Government identifies that fossil fuels in particular have an important role in meeting the need for new major energy infrastructure and stated the following in EN-1:
"Fossil fuel power stations play a vital role in providing reliable electricity supplies: they can be operated flexibly in response to changes in supply and demand, and provide diversity in our energy mix. They will continue to play an important role in our energy mix as the UK makes the transition to a low carbon economy, and Government policy is that they must be constructed, and operate, in line with climate change goals”.

2.2. UK Generation Capacity

21. A large number of existing coal, oil and nuclear power plants are due to close in the near future as they reach the end of their operational life and will be unable to achieve the stringent new environmental standards that are being introduced. One of the main environmental legislative drivers for coal and oil fired plants is the Large Combustion Plant Directive, which requires large combustion plants including power stations to meet more stringent environmental standards by the end of 2015. If the power stations cannot be upgraded to meet these standards they have to close.

22. Against this background of UK closures, the Draft Overarching NPS for Energy identifies that the demand for electricity in 2020 is likely to be at levels similar to 2009, with the possibility of increases beyond 2020 due to use of electricity to decarbonise heating and transport. In addition to the plant closures the NPS states that there will be changes to the power sector as the UK moves towards lower carbon forms of energy. This will result in a requirement for net additional electricity generating infrastructure. EN-1 estimates that the UK will require 43GW net of new capacity by 2020 and about 60GW by 2025.

23. The proposed Tilbury C power station will help deliver part of these new infrastructure requirements. In addition, the gas station forms an integral part of RWE npower’s ‘2020 Vision’ which is to reduce the carbon footprint of its power generation activities by 2020. This involves the replacement of many of its existing power stations with cleaner, more efficient plants, such as this CCGT. RWE npower’s sister company RWE Innogy is also increasing the proportion of electricity provided by renewable sources and is currently investing substantially in offshore wind farms.
3. Legislation and Consent Requirements

3.1. Development Consent Order

24. The proposed CCGT power station and associated gas pipeline will be subject to a single application for a Development Consent Order issued by the Infrastructure Planning Commission (IPC) under Part 5 of the Planning Act 2008. This consent is a requirement for any power station with a generating capacity greater than 50MW and needs to have been obtained before construction can begin.

25. In support of this application an Environmental Impact Assessment (EIA) will be prepared, which will consider potential environmental impacts and any works that can be undertaken to minimise these impacts. The assessment will consider both the construction of the station and potential impacts arising throughout its operational life.

3.2. Environmental Permit

26. An Environmental Permit from the Environment Agency will be required under the Environmental Permitting (EP) Regulations 2008. The regulations require that the power generation process is operated to ensure that there is a high level of protection given to the environment as a whole. The conditions set by the Environment Agency are based on the use of the “Best Available techniques” (BAT), which determines the choice of technology used, as well as the way the plant is operated and maintained. The regulations also require an integrated approach, so that emissions to air, water (including discharges to sewer), land, noise and vibration, plus a range of other environmental effects, are considered together. EP aims to prevent emissions and waste production and where that is not practicable, reduce them to acceptable levels.

3.3. Other Relevant Legislation

27. The EU Habitats and Birds Directives were transposed into UK Law by the Conservation (Natural Habitats &c) Regulations 1994, as amended (the Habitats Regulations). This requires an Appropriate Assessment to be conducted by the ‘competent authority’ before a plan or project that is likely to have a significant effect on designated or candidate Special Protection Areas (SPA) or Special Areas of Conservation (SAC), can be given consent, permission or authorisation. The main Tilbury site is 2.2km from an SPA and thus there is a potential requirement for an appropriate assessment.

28. Under the Water Resources Act 1991, a licence is required from the Environment Agency for the abstraction of water from any sources of supply. Tilbury B has an existing abstraction licence for direct cooling, Tilbury C will also be direct cooled and will require an abstraction license.

29. Depending on the final project design and construction requirements, there may be a requirement for additional consents to be obtained. These may include consent under the Food and Environment Protection Act (FEPA) 1985, the Water Resources Act 1991, the Coast Protection Act 1949 and the Highways Act (1980) / Countryside & Rights of Way Act (2000). Under the IPC regime there is potential that some (or
of these consents may be granted under the same Development Consent as the main plant.

30. Pipelines are regulated under the Pipelines Safety Regulations (PSR) 1996 by the Health and Safety Executive (HSE). In addition to the general requirements of the PSR, high pressure gas pipelines are classed as Major Accident Hazard (MAH) pipelines to which Part II of the PSR applies.

4. The Proposed Development

4.1. Introduction

31. This section provides a high level description of the proposed project based on the information available at the time of writing. It should be noted that the design process for the station and pipeline is at an early stage, and many of the detailed parameters of the project are yet to be determined.

32. The application site boundary and preliminary block layout for the main CCGT site are shown in Figure 2. The application site boundary will be modified prior to submission to include a gas pipeline route corridor as information becomes available during the EIA studies. Currently there is a study area for the pipeline as shown in Figure 3. As the engineering and environmental studies progress the pipeline corridor will become more defined and a preferred route within the study area will be identified. A full suite of environmental assessments within this corridor will be presented in the ES.

4.2. Location

33. The location of the proposed new generating units at Tilbury are well situated in terms of providing electricity to a densely populated region of the UK, which has a high electricity demand. It is believed that the generation capacity in the South East needs to be maintained and developed in order to reduce reliance on the national transmission network and to minimise efficiency losses through the transmission system. It is proposed that the new station will be connected to a new 400KV substation on-site which is currently under development by National Grid.

34. The site features which make Tilbury a suitable location for investing in new plant include:

- Existing land ownership
- Good availability of estuarine water sufficient for direct cooling which is the most energy efficient form of plant cooling system and has capacity to support potential future carbon capture and storage
- Nearby gas main connection point
- Existing on-site grid connection
- Location within the Thames Gateway designated region for economic growth and development
- Good access to motorway network (M25) via the A13
- Existing jetty capacity
Figure 2 Preliminary block layout for Tilbury C
4.3. The Proposed Plant

35. The preferred design for the power station will have a main unit capacity of approximately 2000 megawatts (MW). In addition there will be up to 400MW of Open Cycle Gas Turbine plant (OCGT) which will provide flexible generating capacity to support the management of peak electricity demands. It is proposed that the station will be directly cooled using water from the River Thames, thus there will be no requirement for cooling towers.

36. The primary fuel for the gas turbines will be natural gas. A new underground gas pipeline spur will be constructed to supply gas to the station from the main, located approximately 3km from the site. The current study area through which the proposed pipeline will pass is shown in Figure 3.

37. The main generating units will be able to operate on distillate fuel oil. This back-up/supporting fuel will be held on site within appropriately sized storage tanks.

38. Although the final design for a new power station has yet to be decided, Tilbury ‘C’ could comprise of up to four CCGT generating units and up to four OCGT units. These buildings would be approximately 40 metres high (excluding flues) and their colour would be chosen to minimise their visual impact.

39. Tilbury ‘C’ would have up to eight flues with the largest being around 95 metres high. However, these flues would be significantly smaller and thinner than the existing Tilbury B chimneys.

40. An appropriate landscaping scheme would be implemented during and after the construction of a new power station to minimise visual impact.

41. Space will be allocated on site to allow installation of carbon reduction equipment in the future, which could be in the form of coal gasification, or in the form of post combustion technology. To assist with this, the jetty structures currently in place at Tilbury will be retained so that they can be used to handle future process materials.

42. In addition to the main plant, there will be a number of other structures on site. These include oil and water storage tanks, workshops, stores, an amenity building, car parking, and a gatehouse at the site entrance. The existing cooling water pump house will be reused for the C station.

43. A small number of ancillary buildings or structures belonging to the existing B station will be demolished to enable construction of the C station to take place.
44. In addition to the above buildings, a new Tilbury Energy and Environment Centre shall be built, possibly on an area of existing hardstanding within the Lytag site. Located north of the main operational plant, the new site will be able to optimise the interaction experienced by school and college pupils with surrounding habitats, and provide a beneficial learning environment. The new TEEC will be constructed of suitable materials and will embody a strong ‘sustainable environment’ theme. The TEEC shall have its own local parking facility incorporated into the site design.

4.3.1. Associated Development – Gas Pipeline

45. A new underground gas pipeline will be constructed to supply gas from the existing National Grid pipeline located approximately 3km east of the Tilbury site. The construction working width is likely to be approximately 30m to allow for the storage of trench arisings and working space for installation vehicles. The land will be fully reinstated post-construction. An Above Ground Installation (AGI) measuring approximately 30m x 40m will be constructed at either end of the new gas pipeline. A temporary construction compound will also be required, and will be located on RWE npower’s existing land ownership. There will be no requirement for gas storage on site.

46. The area through which the pipeline will pass is shown on Figure 3. Scoping is requested for this area and the opinion received will be used to inform the environmental assessments to be undertaken. The results of these assessments together with engineering studies and negotiations with landowners will inform the final route corridor which will be presented in the ES.

47. The gas pipeline will connect the National Transmission System to the site of the proposed Tilbury CCGT. It is proposed that the pipeline will be approximately 600mm in diameter and buried for its entire length. The burial depth will be approximately 1.8m with a nominal depth of cover of 1.2m agricultural land. The Above Ground Installation (AGI) will comprise a fenced compound containing above ground equipment, such as a Pipeline Inspection Gauge (PIG) launching facility.

48. The route is likely to cross mainly agricultural land and will avoid residential properties wherever possible. The pipeline will terminate at a block valve in an AGI located within the site of the CCGT.

49. The pipeline will be marked at all road crossings and boundaries using industry standard marker posts. The route will also be marked with ‘flight markers’ to be used when the pipeline is inspected by air.

50. The method used to lay the pipeline depends on the chosen route, and could include either a ‘cut and cover’ technique or directional drilling, or a combination of the two. The construction method for the pipeline will be optimised to minimise the impact of the construction.
51. The ES will contain a full description of the pipeline construction process including site specific methodologies for the crossing of any environmentally sensitive areas that may be identified.

4.3.2. Associated Development - Overhead lines and pylons

52. The 132Kv overhead line and two associated pylons which connect the EDF substation in the north west of the site to the existing B station will be removed as part of the development of the C station. The lines and pylons, which are owned by EDF, will be replaced by underground cabling which will closely follow the line of the new access road. The timing of the digging of the cable trenches and burying of the cabling will optimised with the timing of the road construction to minimise the impact on the site.

4.3.3. Description of the Process

53. The type of CCGT power plant proposed comprises three main components:
   - Gas Turbine Generator
   - Boiler (often referred to as Heat Recovery Steam Generator or HRSG)
   - Steam Turbine Generator

54. The gas turbine has three sub-components: compressor, combustor and turbine. The compressor is used to compress ambient air to high pressure, and as a consequence the temperature of the air is greatly increased. The hot air is fed into the combustor where the natural gas is introduced and burns. The resulting hot gases expand through the turbine doing work. This work is utilised when the gases expand through the turbine causing the turbine to rotate, which drives the air compressor and a generator producing electricity.

55. The gases exit the turbine at low pressure, but are still at a high temperature. Therefore, these hot gases are passed through an HRSG to extract their heat energy to produce steam. The process described above is shown in schematic form in Figure 4.

56. The steam is expanded through a steam turbine which causes it to rotate. The rotation is used to drive a generator to produce more electricity. The steam is passed through a condenser where it is condensed before it is pumped back into the HRSG. River water is pumped through the condensers as a cooling medium in preparation for re-use of the process water. The cooling water is then returned to the river.

57. The combination of gas and steam cycles gives rise to the term "Combined Cycle Gas Turbine" (CCGT). The CCGT has a high plant efficiency, significantly reducing its emissions per MW of electricity produced.
Figure 3  Area through which proposed gas pipeline may pass to connect to gas main
Figure 4  Typical schematic diagram of main generating plant: Tilbury C
4.4. Access to the Site
58. The main site entrance to the B station is located in the north west corner of the site, off Fort Road, and will be utilised for the new station. Road access to the site is generally good from the A13 via the A1089 to Tilbury Docks and then single carriageway to the power station entrance.

4.5. Grid Connection
59. The station has existing connections to the National Grid network. Since the B station was originally designed and constructed, high voltage management and distribution technology has progressed along with National Grid's own distribution system design. Recent Grid development work surrounding the Tilbury site means that Tilbury C would be required to connect into a new 400kV substation currently under construction by National Grid.

4.6. Combined Heat and Power
60. The guidance issued for developers to follow when making an application under section 36 of the Electricity Act 1989 to assess Combined Heat and Power (CHP) opportunities, will be utilised for the proposed Tilbury C development. The draft Energy National Policy Statement (NPS) states that the IPC should have regard to this guidance or any successor to it when considering applications for thermal generating stations. The Government believes that from a fuel efficiency and climate change perspective, waste heat from large power stations should be utilised where possible for community heating and industrial uses.

4.7. Carbon Capture Ready
61. It is recognised that technological progress and developments in the regulatory framework are likely to occur within the lifetime of the development. As a minimum, the design of the new station will consider the possibility that it may be required to be retrofitted with carbon capture and storage (CCS) technology at some future date. Land will be retained within the site for a possible carbon capture plant. The application will consider the requirements of 'Carbon Capture Readiness: a guidance note for Section 36 Electricity Act 1989 consent applications' provided by DECC regarding the need to demonstrate that a proposed development is carbon capture ready (CCR). The draft Energy NPS states that the IPC must not grant consent unless the application can demonstrate that that proposed development is CCR.

4.8. IGCC Conversion
62. It is possible that carbon reduction technology may be installed at the site in the form of gasification, which uses coal as a primary feed stock, and would incorporate carbon capture and storage. The timescale for any possible installation is unknown as this very much depends on a number of technical, commercial and regulatory factors. The potential conversion to IGCC in the future creates an option in the long term for future clean coal generation at Tilbury.
4.9. Timeline

63. The projected timescale for carrying out the investigations and developing the project is set out in Figure 5. If consent is obtained it is anticipated that site enabling works for construction would commence in 2012. The first of the new units would come online in 2015 with the station fully commissioned by the end of 2016. The main construction and commissioning phases of the station are expected to last approximately 3 years.

64. The period taken to complete the EIA ends when the formal application (for validation) is made to the IPC.

5. The Existing Environment

5.1. Site Location and Surrounding Land Use

64. The site of the proposed development is an area to the north and west of the current Tilbury B power station, as shown in Figure 2. The site is centred on NGR Grid Reference 565842,176114. The area being considered for the pipeline route is shown on Figure 3.

65. Within the application site is the existing B station and the foundations of the A station which was largely demolished in 1999. There is also a large sub-station on land leased to National Grid. The site lies adjacent to the River Thames and includes a substantial jetty through which fuel supplies are currently delivered. The Tilbury Energy and Environment Centre is located within the grounds of the power station and provides school groups and all site visitors with an opportunity to study the wildlife and the station during site visits. Approximately 6000 students from around 150 schools and colleges visit the centre annually. The grounds of the environment centre are designated as the Tilbury Centre Wildlife Site (WS) and to the north is the Lytag Brownfield WS. Adjacent to the application site on the eastern side are the ash fields associated with the B station, on land owned by RWE npower.

66. In the surrounding area, to the north and east are the West Tilbury marshes. The Anglian Water sewage treatment works is adjacent to the western boundary of the site. Tilbury town is located to the north west of the power station and falls within the wards of Tilbury St Chads and...
Tilbury Riverside & Thurrock Park. The site is located 1.7km from the South Thames Estuary and Marshes Site of Special Scientific Interest (SSSI) and 2.2km from the Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar site. The site is located in the locality of Tilbury Fort which is designated as a nationally significant scheduled monument. The local designated areas and sites are discussed in further detail in section 6.10.

There is a former landfill located to the east of the existing station, within the area being considered for the pipeline route. This is surrounded by predominantly agricultural land.

The Port of Tilbury is located 1.3km west of the site boundary. The port handles a wide range of import and export traffic including containers, pipe work, pallets, heavy lifts and rolling cargoes. The port operates a variety of modern handling equipment including container cranes, conventional quay cranes and mobile plant.

Littlebrook Power Station, located on the south bank of the River Thames 9.3km to the west of Tilbury B is also operated by RWE npower. Littlebrook is an oil fired station comprising 3 x 685MW units.

Power generation has been undertaken at the Tilbury site for more than 50 years. The original Tilbury A station was commissioned in 1956. Although initially commissioned as a coal fired power station the boilers were converted to burn oil before coming into full commercial operation. In 1981 Tilbury A effectively ceased to operate and the station boilers and turbine hall were demolished in 1999.

The existing Tilbury B Power Station began full operation in 1968 and has capacity of 1428MWe, although one of the four generating units is currently in reserve. The coal jetty was extended in 2004 and a new berth pocket was dredged to enable larger Panamax vessels loaded with approximately 65,000 tonnes of coal to be brought alongside.

6. Proposed Approach to the Environmental Impact Assessment

6.1. General Approach

The Infrastructure Planning Commission (Environmental Impact Assessment) Regulations 2009 state that an Environmental Statement (ES) is required for an application to develop a generating station, the construction (or operation) of which will require a development consent from the IPC, and which is a non-nuclear generating station with a heat output of 300 megawatts (MW) or more.
73. In November 2009 the Department of Energy and Climate Change released the draft Overarching NPS for Energy (known as EN-1) and the draft NPS for Fossil Fuels (EN-2). Both contain guidance on environmental assessments. EN-2 in particular sets out the need for consideration of specific impacts of fossil fuel generating stations such as air emissions, landscape and visual, noise, and water quality and resources in an Environmental Statement. The guidance will be considered in the ES for the proposed CCGT station at Tilbury.

74. The ES will provide a factual description of the development and will be prepared based on the relevant techniques and knowledge available at the time. The following information will be included in the ES:

- A description of the physical characteristics of the proposed development, land-use and the production processes.
- An estimate of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, etc) resulting from the operation of the development.
- A description of the environmental aspects likely to be significantly affected by the development, including direct and indirect effects, short, medium, and long term effects, and secondary and cumulative effects; and the data required to identify and assess the main effects. The aspects considered will include the following along with the inter-relationship between them:
  - Flora
  - Fauna
  - Soil
  - Water
  - Air
  - Landscape
  - Climatic factors
  - Population
  - Material assets
  - Architectural and archaeological heritage
- A description of the main alternatives studied.
- A description of the measures proposed to reduce, prevent or where possible, offset any significant adverse effects on the environment.
- A non-technical summary of the main findings of the ES.

6.2. Scoping

75. Scoping is an early stage in the EIA process and is designed to ensure that the environmental studies undertaken provide all the relevant information required for the assessment. Scoping is the process of determining the content and extent of the matters which should be covered in the environmental information to be submitted to the competent authority for projects which are subject to EIA. The scoping process is designed to allow consultees to input into the EIA process for a particular project.

76. Consultation with a wide range of statutory and non-statutory agencies will be undertaken at key stages throughout the EIA process. One of the first of these stages is the scoping process.

77. A Scoping Report for the previous development project, a supercritical coal fired power station at Tilbury, was submitted to the then...
Department of Business, Enterprise, and Regulatory Reform in March 2007. It is recognised that many of the consultees for this proposed gas fired power station were consulted on the coal fired power station in 2007. Responses received for the coal fired power station scoping report will be considered during the scoping and development stages of the gas fired power station at Tilbury. However, it is understood that consultees may wish to update their response to proposals at Tilbury in light of the new proposal.

6.3. Consultation Process

During the scoping process the IPC will consult with a range of statutory consultees to obtain their views on the proposals. A list of statutory consultees which RWE npower anticipates will be consulted by the IPC are listed in Appendix A. Appendix B lists the non-statutory consultees which may be consulted by the IPC. This list has been derived from the consultees listed under Schedule 1 of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.

6.4. Scope of the EIA

The proposed scope of studies which form the basis of consultation during the scoping process, and will form the main chapters of the Environmental Statement are discussed in the sections below.

6.5. Planning Policy Context

The Tilbury Power Station site, situated in the Borough of Thurrock, is within the Thames Gateway, which was announced as a key growth area in the Government’s Communities Plan ‘Building for the Future’, launched in February 2003. The Thames Gateway is therefore an area of national importance.

To fully understand how the proposed development may impact upon relevant planning policies a review of the planning context related to the proposed new units at Tilbury will be completed as part of the Environmental Statement.

The site falls within the area covered by the Thurrock Unitary Development Plan (UDP) (deposit version). Work on the Thurrock UDP has been suspended following commencement of the preparation of Local Development Documents although it will remain a material consideration in the determination of planning applications. Under section USP43 of the Unitary Development plan, proposals for new energy generation developments will be permitted where appropriate provided that the following certain criteria are met (amongst others):

- There is an identified need for the facility in the Borough
- There will be no materially adverse environmental impact on the surrounding area
- There is an existing power transmission line of sufficient capacity to serve the development
- The development complies with other relevant policies in the plan
83. The Local Development Framework (LDF) will be used as a guide for development and land use in Thurrock until the year 2010. It is made up of three Development Plan Documents:
   • Core strategy and policies for control of development
   • Site specific allocations and policies
   • Minerals and waste

84. The objectives and strategy for the development of the whole area of the Borough will be set out in the Core Strategy and Policies for Control of Development (Development Plan Document). Consultations on all three documents have been carried out and Thurrock Council is currently considering the responses.

85. Other relevant planning policy documents include the East of England Plan. The plan supersedes the guidance previously set out in the Thames Gateway Planning Framework (RPG9a) (1995), and the Regional Planning Guidance for the South East (RPG9) (2001). The Thames Gateway embodies the vision for the area extending from the Docklands in London to Tilbury in Essex and the Isle of Sheppey in Kent, an area previously known as the East Thames Corridor. RPG9a refers to specific regions within the Thames Gateway including Essex Thames-side, which covers the Tilbury area.

86. The guidance contained within the East of England Plan and RPG9a will be reviewed in relation to the development proposals.

87. In addition to the Local Development Framework, there is a Spatial Plan which covers the Thurrock area. The Spatial Plan is supported by a range of geographically focused Area Master Plans. The final South East Thurrock Master Plan which was published in November 2009 sets out proposals for improving the South East Thurrock area, in which Tilbury is a main priority for regeneration, along with East Tilbury and Chadwell St Mary. Tilbury Riverside, which stretches from the Port of Tilbury to the existing Tilbury power station, bounded to the north by the railway line is identified as a possible location for new recreational facilities. The plan specifically mentions the proposed replacement of the existing Tilbury power station as part of the regeneration of the area.

88. The Thames Gateway South Essex Greengrid Strategy has provided the strategic framework for the Greengrid at a sub-regional scale. The proposed development will therefore take into account the principles identified in the Greengrid Strategy for Thurrock, such as those in the areas of flood management, improving air and water quality and noise abatement.

89. It is recognised that Thurrock Council has adopted as supplementary planning guidance, ‘The Essex Guide to Environmental Assessment’ prepared by the Essex Planning Officers Association. This document will be reviewed and referred to during the EIA for the proposed development as appropriate.
6.6. Air Quality
6.6.1. Introduction

90. The proposed Tilbury C power station will generate electricity primarily by combustion of natural gas. This results in the production of carbon dioxide (CO$_2$) and water vapour along with small quantities of nitrogen oxides (referred to as NO$_X$ and consisting of nitric oxide (NO) and nitrogen dioxide (NO$_2$)), carbon monoxide (CO) and non-methane volatile organic compounds (NMVOCs). Emissions of NOx from the station are expected to be significantly reduced compared to the coal station. Whilst natural gas combustion gives rise to negligible emissions of sulphur dioxide (SO$_2$) and particulate matter (PM10), the station will also be capable of burning distillate fuel oil. This produces greater but still small quantities of such substances. These substances are released to the atmosphere through flues, where they are diluted and dispersed by natural atmospheric processes. They may also undergo chemical reactions and deposition. It is unlikely that distillate fuel oil will be used for more than a few days each year.

91. Impacts of CO$_2$ are significant on a global scale due to its links to climate change, whilst the impact of NO$_X$ and SO$_2$ may be important for local air quality and at designated sites with sensitive vegetation and ecosystems. For power stations of this type, the environmental impacts of the other substances mentioned above are usually not significant.

92. The operational impact of the station on local air quality and at designated sites depends on the properties of the combustion gases released from the flues, local meteorology and the height and configuration of the flues. Concentrations of NO$_2$, SO$_2$, CO and PM10 are monitored and regulated by local authorities and the Environment Agency (EA) to protect human health and also to protect designated sites from adverse atmospheric impacts. These are assessed against National Air Quality Objectives (NAQOs) laid down in the UK National Air Quality Strategy and associated regulations.

93. Gas turbine power stations fired by natural gas emit less than half of the CO$_2$ per unit of electricity produced compared to traditional coal-fired power stations. The increase in the use of natural gas for power generation has made the largest contribution to the UK’s reduction in greenhouse gas emissions in recent years, enabling it to meet its target for the year 2000 under the UN Framework Convention on Climate Change. The proposed new Tilbury C Power Station will contribute to the reduction in RWE npower’s contribution to UK CO$_2$ emissions and will be beneficial in helping to meet the UK’s greenhouse gas emission reduction commitments.

94. The gas pipeline, the replacement of the 132kv power lines with underground cabling, and the Tilbury Energy and Environment Centre all have a potential to produce temporary air quality impacts during the construction phase, due to emissions from vehicles and construction plant.
6.6.2. Existing Data

95. Air Quality Management plans are required by the Environment Agency for the existing coal fired B station. RWE npower operates four air quality monitoring stations at locations close to the site. A number of local authorities also operate monitoring stations in the locality. Currently, data from RWE npower’s monitoring stations indicate that local air quality is acceptable, with all NAQOs met. Modelling of future emissions from Tilbury B indicates that all NAQOs are likely to continue to be met.

96. An air quality assessment has previously been carried out for a new coal-fired station at Tilbury, consisting of two main 800 MWe units, with up to 8 gas-fired OCGT units. With appropriate choice of flue heights this showed that air quality impacts were less than NAQO concentrations and other Environment Assessment Levels by substantial margins. An assessment was also carried out of the station’s atmospheric impacts at relevant Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs). This indicated that the coal station air emissions were likely to have ‘no adverse effect’ at SACs/SPAs and were not ‘likely to damage’ the special interest features at SSSIs. It should be noted that a gas-fired station will have lower impacts at such sites than a coal-fired station.

6.6.3. Further Work

97. The local air quality impact of the proposed station will be assessed by modelling ground level concentrations of relevant substances using the Atmospheric Dispersion Modelling System (ADMS) computer model, with representative emission parameters and local meteorological and monitoring data. ADMS has been extensively used for this type of work and is recognised by the EA. The results will be assessed against NAQOs in the context of current and future background concentrations. Flue heights will be specified to ensure all NAQOs are met. The potential for impacts arising from the pipeline construction activity will also be assessed. Mitigation measures will be proposed to control the potential for airborne dust. The emissions from Tilbury C will be subject to a limit in the Environmental Permit, which is likely to be based on the Industrial Emissions Directive (IED).

98. The impacts of the station on \( \text{SO}_2 \) and \( \text{NOx} \) concentrations and deposition will be modelled and assessed at SACs, SPAs and SSSIs within 10km using ADMS. Consideration will be given to critical levels, critical loads and background concentrations at such sites. Dust and PM10 impacts during construction will be qualitatively assessed using local meteorological data, with particular attention to any sensitive local receptors.
6.7. The Aquatic Environment
6.7.1. Introduction

99. The River Thames has its source near Cirencester and is tidal from Teddington Weir to the seaward limit, a length of 107km. The width of the Thames Estuary around Tilbury Power Station ranges between approximately 950m to the west and 1100m to the east. Mudflats are exposed on both sides of the channel on the ebbing tide. On the north bank adjacent to the power station the bank shelves steeply to 10-13m below chart datum (CD) whereas the gradient is gentler on the southern bank around Gravesend. The tidal range increases landward along the estuary owing to the narrowing of the channel.

100. Freshwater input to the tidal Thames at Teddington averages 800 million litres per day though it may fall as low as 200 million during periods of low flow and reach 30,000 million litres per day during periods of high rainfall. The 25 sharp bends in the river between Teddington and the seaward limit ensure good mixing of fresh and saline waters to produce a fairly even gradient of increasing salinity in a seaward direction.

101. The Thames Estuary contains a number of habitats typical of other British estuaries including:
- Mudflats and sandflats
- Saltmarsh
- Boulder/rocky habitats
- Intertidal creeks and saline lagoons

102. These habitats support a variety of aquatic invertebrates, fish, macroalgae and higher plants. The estuary also provides subtidal habitats which are important for many fish species. The Thames is a strongly tidal estuary with a relatively large freshwater influence. Fish species present range from adventitious freshwater species, i.e. freshwater species with no estuarine requirement, to adventitious marine species i.e. marine species with no estuarine requirement. Certain species use the estuary as a nursery area (e.g. sole) or seasonally as adults (e.g. bass). Other species, such as salmon and eel migrate through the estuary to spend different parts of their life cycle in fresh or salt water.

103. The River Thames serves as an international port, and has a commercial fishery in the estuary. It is also an important leisure and recreation area. The river is also a source of abstraction water for industrial and domestic use.

6.7.2. Existing Data

104. In the period 2007 to 2008, extensive aquatic ecology surveys were commissioned by RWE npower at Tilbury. These surveys are listed below:
- Monthly ichthyoplankton surveys (July 2007 to August 2008)
- Quarterly zooplankton and phytoplankton surveys (July 2007 to May 2008)
- Quarterly subtidal and intertidal fisheries (July 2007 to May 2008)
• Bi-annual subtidal and intertidal benthic faunal surveys (Oct 2007 and April 2008)
• Bi-annual subtidal and intertidal sediment chemistry surveys (Oct 2007 and April 2008)
• A baseline saltmarsh survey
• Marine Mammal Review

105. In addition RWE npower have access to a number of other water quality and ecology data sets which will be used to inform the development of proposals for a CCGT at Tilbury. These data sets are listed below:
• EA water quality sampling data
• RWE npower station intake water quality samples
• Zoological Society London cooling water intake screen monitoring data

6.7.3. Further Work
106. It is proposed that the CCGT plant will use water from the Thames estuary for direct cooling. The cooling water intake and outfall arrangement for the existing station will be reused for Tilbury C. A review of the design and performance of these structures will be undertaken to ensure that their reuse is appropriate.

107. The assessment of potential impacts on the aquatic environment will demonstrate that the proposed plant offers an efficient use of water resources and that the abstraction of the water resource is environmentally acceptable. It will also be demonstrated that the equipment and operation constitute site specific Best Available Technique\(^1\) (BAT) such that they eliminate emissions subject to BAT and that the residual environmental impacts are deemed acceptable.

108. An assessment of the potential impacts on water quality will include a review of available literature sources for the water body. Appropriate modelling will be undertaken to determine the potential for impact on the aquatic environment associated with the proposed development. It is likely that the modelling will include:
• Water levels and currents
• Thermal (plume and long term accumulation of heat)
• Dilution assessment

109. RWE npower commissioned a set of hydrodynamic models to support the previous coal project. One two dimensional (depth averaged) model covers the tidal Thames from Teddington to a line east of Southend-on Sea. The second three dimensional model focuses on the area around the Tilbury site. These are shown in Figure 6 and Figure 7. The models were calibrated using data collected in a series of boat and fixed instrument surveys especially commissioned by RWE npower and

\[^1\]\textit{Best Available Technique} - in the context of Pollution Prevention and Control (PPC), best available techniques have to be used to prevent, or where this is not possible, minimise emissions and their effect on the environment as whole. To be ‘available’ techniques have to be technically and economically viable.
using data sets provided by the EA. These models will be used for the proposed CCGT project.

110. The output of the aquatic modelling will be used to assess any potential impacts on both water quality and key ecological features. A baseline understanding of the aquatic ecology surrounding the proposed power station has been developed. Further water quality and fish studies are ongoing to support the consent application for the CCGT proposal.
Figure 6  Two dimensional model grid of the tidal River Thames
Figure 7  Mid-field model grid and bathymetry\(^2\) of the River Thames

\(^2\) Bathymetry is a measure of water depth
6.8. Ground Conditions and Hydrology

6.8.1. Introduction

111. The Tilbury site is located on former marsh land. Large parts of the site are overlain with artificial and made ground from the development of the old Tilbury A power station and the existing Tilbury B station. Beneath the made ground is alluvium which has low permeability and acts as a natural barrier limiting movement of ground water between the shallow soils and the upper chalk. Beneath the alluvium are river terrace deposits, and then a deep layer of chalk. The chalk bedrock is typically 20-22m below ground and is in the order of 100m thick. The chalk is classed as a major aquifer which is used for a regional potable water supply. However it is subject to saline intrusion in this area and therefore the groundwater directly beneath the site is probably non-potable.

112. There are some areas of surface water within the site boundary, and wider study area for the gas pipeline. Those within the site boundary are principally surface drains and ponds and have been developed for biodiversity.

6.8.2. Existing Data

113. As part of the work for the previous coal project a desk study and detailed site investigations of the ground conditions and hydrology and hydrogeology were undertaken during 2008. The main study area lies just south of the currently proposed CCGT plant area, and thus information collected will be valuable in characterising the baseline hydrological environmental for the purposes of the EIA. In addition a near surface contamination study covering the CCGT development area was undertaken and the results of this will also be used.

6.8.3. Further Work

114. A full assessment will be undertaken for the proposed CCGT and the gas pipeline, and will be divided into two key areas: ground conditions, and hydrology and hydrogeology. The assessments will identify the potential for existing land contamination and identify remediation requirements where necessary. It is proposed that the impact assessment methodology will be based upon the Design Manual for Roads and Bridges Guidance (DMRB- Volume 11) and the Department for Communities and Local Government (June 06) Environmental Impact Assessment: A guide to good practice and procedures.

115. The assessment will focus on the potential impacts from the construction and operation of Tilbury C including laying the gas pipeline, and the establishment of construction lay down areas and transport routes on site. The EIA will take account of the policies and recommendations set out in Planning Policy Statement 23 (Planning and Pollution Control).

116. A desktop study of the soil characteristics of the pipeline route will be undertaken. The nature of the soils will be considered in relation to
susceptibility to damage and recommendations made to prevent loss or damage of soils. Areas of landfill will be identified and any construction impacts will be assessed as appropriate. The presence of areas of landfill will be taken into consideration in the design of the pipeline route. The engineering design of the pipeline may require a geotechnical survey to be undertaken. Any relevant information gathered will be used to inform the assessment of ground conditions.

117. The assessment will describe the natural drainage regime for the pipeline route, and also the nature of artificial land drainage where this information is available from landowners. The likely method of drainage reinstatement will be described and mitigation measures proposed where appropriate.

6.9. Flooding
6.9.1. Introduction

118. The Tilbury site lies on the northern bank of the River Thames, which is the dominant water feature in the area. The river has flood defences, which within the Tilbury site is comprised of a sea wall. During its development the site levels have been raised and are approximately 2-4 m AOD.

119. The site lies within the Environment Agency’s Indicative Floodplain for the tidal River Thames as shown in Figure 8. The proposed location of the Tilbury C Station next to the existing B station falls within Flood Zone 3a and has a 1 in 200 or greater annual probability of flooding from tidal sources in the absence of flood defence protection.

6.9.2. Existing Data

120. The work undertaken for the previous coal project identified that the River Thames flood defences provide the site with a high standard of protection according to the Environment Agency criteria, providing protection from a 1 in 1000 year tidal event. The risk of flooding from a tidal source is therefore a residual risk only, in the eventuality of a breach or failure of the flood defences.

6.9.3. Further Work

121. The Flood Risk Assessment will analyse two breach scenarios - the existing layout (Tilbury B), the final layout (Tilbury B and Tilbury C). A breach width along the existing flood defence wall of 20m will be modelled and will be assessed for the 1 in 200 year and 1 in 1000 year extreme events allowing for climate change for the lifetime of the development (20 years).

122. Flood risk will also be considered in terms of the location of the AGI for the gas pipeline; the only part of the pipeline that would be susceptible to post construction flooding.
123. The proposed development is classified as ‘essential infrastructure’ under Planning Policy Statement (PPS) 25: Development and Flood Risk, and both sequential and exception tests will be completed in line with these requirements. The assessment will also include appropriate mitigation measures and quantify residual impacts.

6.10. Terrestrial Ecology

6.10.1. Introduction

124. The Tilbury site is predominately brownfield, with significant areas of industrial development. It comprises a mosaic of habitats including grasslands, lichen heath, ponds and drainage ditches. Adjacent to the site are coastal habitats including mudflats and salt marsh. Protected species including water vole and barn owl are known to reside within the Tilbury Power Station site.

125. There are no statutory designated wildlife sites on or adjacent to the Tilbury site. The site is 2.2km from the Thames Estuary and Marshes SPA and Ramsar site. This site includes both marine areas (i.e. land covered continuously or intermittently by tidal waters) and land which is not subject to tidal influence and is known to support internationally important populations of avocet (Recurvirostra avosetta) and hen harrier (Circus cyaneus). Within 10km of the site there are two additional European designated sites and twenty SSSIs, as shown in Figure 9. All of these European designated sites, and those SSSI’s within 5km are specifically listed in Table 1.
Table 1 Designated ecological sites within the vicinity of the proposed Tilbury C site

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Designation</th>
<th>Distance to Site (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Downs Woodlands</td>
<td>SAC</td>
<td>9.7</td>
</tr>
<tr>
<td>Medway Estuary &amp; Marshes</td>
<td>SPA/Ramsar</td>
<td>10</td>
</tr>
<tr>
<td>Thames Estuary &amp; Marshes</td>
<td>SPA/Ramsar</td>
<td>2.2</td>
</tr>
<tr>
<td>South Thames Estuary &amp; Marshes</td>
<td>SSSI</td>
<td>1.5</td>
</tr>
<tr>
<td>Mucking Flats and Marshes</td>
<td>SSSI</td>
<td>1.5</td>
</tr>
<tr>
<td>Globe Pit</td>
<td>SSSI</td>
<td>3.5</td>
</tr>
<tr>
<td>Hangman’s Wood &amp; Dene Holes</td>
<td>SSSI</td>
<td>3.6</td>
</tr>
<tr>
<td>Shorne &amp; Ashenbank Woods</td>
<td>SSSI</td>
<td>4.5</td>
</tr>
<tr>
<td>Bakers Hole</td>
<td>SSSI</td>
<td>4.7</td>
</tr>
<tr>
<td>Grays Chalk Pit</td>
<td>SSSI</td>
<td>5.0</td>
</tr>
</tbody>
</table>

There are two non-statutory local Wildlife Sites (WS) within the application site. The Tilbury Centre WS is a complex mosaic grassland notable for rare plants and invertebrates, and the Lytag Brownfield WS is notable for its invertebrate communities and reptile populations. In addition, the Goshems Farm WS is located within the gas pipeline study area. It is notable for its reptiles, invertebrates and salt marsh flora.
Figure 9  Designated sites within 10km of Tilbury power station
6.10.2. Existing Data

127. Previous work, undertaken between 2006 and 2009 of the Tilbury Power Station site and surrounding land, has identified features of ecological interest. Those within the application site boundary for the proposed CCGT station are shown in Table 2.

128. As part of the work for the previous coal project a significant amount of ecological survey work was carried out across the site and the immediate surrounding area between 2006 and 2009. The surveys were undertaken in consultation with Natural England and methodologies were based on appropriate ecological survey guidelines. Surveys carried out in the period included:

- Extended Phase 1 habitat surveys
- National Vegetation Classification survey
- Protected species scoping survey
- Badgers (including bait marking)
- Bat activity and emergence surveys
- Great crested newt presence/absence and population size class assessment surveys
- Invertebrate surveys
- Lichen, lower plant and fungi surveys
- Reptiles presence/absence and population size class assessment surveys
- Water vole surveys
- Wintering and breeding birds

129. In addition, Natural England was consulted following the discovery of dormouse field signs within the site. Presence of dormouse was confirmed and further survey work was not considered necessary (pers. comm., May 2009).

130. The existing baseline data set will be used to inform the baseline for the EIA for the gas station proposal.

6.10.3. Further Work

131. Given the extent of survey work already completed for the application site and surrounding area, no further ecological field work is considered necessary to inform the EIA for the gas station proposal. The effects and impacts of the gas power station proposals on ecology will be assessed in accordance with the Institute for Ecology and Environmental Management’s Guidelines for Ecological Impact Assessment in the UK (2006).

132. A suite of ecological studies will be carried out to inform the environmental assessment of the gas pipeline corridor route. The scope of the ecological surveys cannot be fully determined at this stage and will be developed following completion of the Phase 1 Habitat survey. The detailed scope of these further surveys will be agreed with the relevant consultees, however it is likely that the following surveys will be required:
133. **Habitats.** An Extended Phase 1 survey will be undertaken over the whole study area. The survey aim will be to identify valuable habitats and this information will be used in both the final route selection process and also to inform the detailed ecological surveys.

134. A Habitat Suitability Assessment (HSA) will be undertaken to identify the ponds and water bodies that will need to be surveyed for Great Crested Newts (GCNs).

135. The habitat mapping will include an assessment of hedgerows and trees within the preferred pipeline corridor. The pipeline construction work would under normal conditions require the removal of all vegetation within the construction area. It is anticipated that this will be approximately 30m in width. All hedgerows affected by the construction will be reinstated as appropriate.

136. **Protected Species.** Following completion of the habitat mapping the need for the protected species surveys will be determined. It is anticipated that the following surveys may be required if sufficient existing data is not already available:

- Great Crested Newts
- Water Voles and Otters
- Bats
- Badgers
- Breeding Birds
- Reptiles
- Invertebrates

137. The preferred pipeline construction period is during the summer months and therefore is unlikely to have a significant impact upon wintering birds. Further wintering bird surveys are therefore not proposed although reference will be made to existing data sets where appropriate for the assessment.
**General area**

**Habitats**

- Grasslands of various categorisation, ponds, marsh/reedbeds, wooded copses and scrub

**Examples of priority BAP species/habitats**

- Species: Water vole, great crested newt, common and soprano pipistrelles (foraging activity), hornet robberfly, brown-banded carder bee, grass snake, adder, black redstart, dormouse

**Additional species and notes of interest**

- TEEC grounds largely designated as a Local Wildlife Site (LWS). Ponds and ditches support great silver water beetle. Barn owl and badger foraging activity

| Tilbury Energy & Environment Centre (TEEC) grounds (including Gatehouse pond and ditch) | Grasslands of various categorisation, ponds, marsh/reedbeds, wooded copses and scrub | Species: Water vole, great crested newt, common and soprano pipistrelles (foraging activity), hornet robberfly, brown-banded carder bee, grass snake, adder, black redstart, dormouse | TEEC grounds largely designated as a Local Wildlife Site (LWS). Ponds and ditches support great silver water beetle. Barn owl and badger foraging activity |
| Lytag site | Brownfield habitat: lichen heath developing upon industrial aggregates (Lytag; clinker and ash) and previous warehouse hard standings. 'Steppe' characteristic mosaics of habitat. North of site: acid grassland; seasonally wet areas forming saltmarsh habitat. Some pioneer heathland to the south | Species: Water voles, pipistrelle bats (occasional foraging), lapwing, invertebrates, lichen including Cladonia rei, Diploschistes muscorum and Xanthoria elegans, adder, grass snake, slow worm and common lizard | 'Brownfield wildlife sites' are within the Thurrock BAP. This site is also designated as an LWS. Barn owl and badger forage across this site |
| Old Tilbury A site and buildings | Areas of hard-standing; seasonally wet areas; patches of scrub and vegetation | Species: Bats (occasional foraging), black redstart, starling | Barn owl and badger forage across this site |
| Tilbury B site buildings | Working industrial site | Species: Black redstart, starling, bats (occasional foraging) | Peregrine falcons breed and forage across the site |
| Area to the north of the station approach road | Scrub; rank grassland; ditches; railway sidings; some concrete hard standings | Species: Song thrush, hornet robberfly, slow worm, common lizard, adder, pipistrelle and noctule bat (foraging activity) | Barn owl foraging area |
| Wildflower meadow (to the south of the site, adjacent to the River Thames) | Cleared area of brambles and rank vegetation, to develop a strip of wildflower meadow. Some established and young trees also present | Species: Hornet robberfly |

**Table 2 Known features of ecological interest within the application site**

BAP: Biodiversity Action Plan species and habitats prioritised for Thurrock; Essex and/or the UK.
6.11. Landscape and Visual Effects

6.11.1. Introduction

138. The Tilbury site is located in the south east of Thurrock adjacent to the River Thames. Surrounding the site is an area of drained alluvial marshland characterised by straight ditches creating predominantly rectilinear field shapes. Gravesend lies to the south and Tilbury docks to the west. The town of Tilbury is located north-west of the application site. The other significant settlements within proximity are Grays, Chadwell St Mary and the villages of Cliffe and East Tilbury. Two forts are close to the development area – Tilbury Fort to the west and Coalhouse Fort to the east. The current power station itself forms a distinctive landmark with its concrete chimneys and power station buildings. A network of pylons and power lines travel north from the power station across the marshes.

139. The site is within the Greater Thames Estuary Character Area 81 of the Character Map of England. The area has also been subject to a Landscape Character Assessment completed on behalf of Thurrock Council. The site lies within the Character Area C5, Tilbury Marshes. The key designations are the Kent Downs Area of Outstanding Natural Beauty which lies 6km south of the site, and the greenbelt land surrounding the Tilbury site.

6.11.2. Existing Data

140. The existing data collated on the landscape character and visual baseline will be used to assess the impacts of the proposed CCGT station. The landscape baseline includes the surrounding residential areas, settlements, open spaces, topography, vegetation and transport networks. The local landscape character data is based upon the Thurrock Landscape Capacity Study and the Kent Landscape Character Assessment.

141. The visual baseline analyses residential receptors; those using open space, cultural heritage and leisure facilities; and those travelling and working.

142. RWE npower propose to use the same photomontage viewpoints as were agreed during consultation for the previous coal project. The scale and footprint of the gas station is smaller, and the existing viewpoints are considered appropriate. The locations of the viewpoints are shown in Figure 10. Additional viewpoints may be required to assess the visual impact of the gas pipeline AGI.
Figure 10  Landscape viewpoint locations

Legend

- Application site boundary (main power station)

Viewpoint locations

1. Hutts Hill  TQ644 782
2. Church Road, West Tilbury  TQ661 777
3. Coalhouse Fort  TQ690 768
4. Tilbury Town  TQ645 764
5. Fort Road, Tilbury  TQ654 766
6. West of Tilbury Fort  TQ645 752
7. East Tilbury Marshes  TQ678 758
8. St. Andrews, Gravesend  TQ648 745
9. Windmill Hill, Gravesend  TQ648 735
10. Fort Gardens, Gravesend  TQ653 743
11. Gordon Prom., Gravesend  TQ658 744
12. Saxon Shore Way  TQ691 749
6.11.3. Further Work

143. A landscape and visual impact assessment will be undertaken to assess the potential impacts of the proposed development on the surrounding landscape and visual amenity area. The assessment will compare the existing layout (Tilbury B) with the final layout (Tilbury B and Tilbury C). Standard recognised methodologies will be used including the Countryside Agency’s ‘Landscape Character Assessment Guidance 2002’ and the ‘Guidelines for Landscape and Visual Assessment’ jointly published by the Landscape Institute and Institute of Environmental Management and Assessment. The proposed pipeline will have a temporary impact upon the landscape affected by the pipeline route during the construction phase and the period of restoration of the land and vegetation. The pipeline will be buried for its entire route and the construction strip will be reinstated to its former condition where practicable. The assessment will consider impacts associated with the gas pipeline construction as well as the localised impact of the Above Ground Installation.

144. Like a number of other UK coal and oil-fired power stations, the current Tilbury B coal power station is due to close by the end of 2015 as a result of new emissions limits. Between now and the end of the existing station’s operational life, we will be working to understand and clearly define the future of the plant and buildings on site, taking into account health and safety, responsibility to our neighbours and the surrounding communities, as well as effective management of the land which will remain in our ownership. The construction of the new station will need to take place before the old station can be demolished and therefore it is very likely that the Tilbury B buildings and structures would remain during the early years of operation.

145. The assessment shall comprise, but not be limited to, the following:
- Review of the existing landscape character assessments for the site and surrounding areas, both at national and local level
- Identification of the baseline character and quality of the surrounding landscape and identification of valued landscape receptors
- Identification of the potential zones of visual influence of the development to verify the existing photomontage viewpoints
- The production of photomontages from these viewpoints and the assessment of the visual impacts

146. Figures 11-14 show views of the existing B station and photomontages of the proposed new CCGT station. The photomontages are provided for illustration purposes only as the design process is at an early stage and are not shown to scale; however the relative scale shown of the C station to the B station provides an accurate representation.

147. The assessment will determine the need for any mitigation measures and landscaping requirements for the proposed AGI will be identified.
Figure 11  Photograph showing the existing Tilbury B power station from Fort Road, Tilbury

Figure 12  Photomontage showing the proposed CCGT station at the Tilbury site, with Tilbury B in the background, from Fort Road, Tilbury
Figure 13
Photograph showing the existing Tilbury B power station from Windmill Hill, Gravesend

Figure 14
Photomontage showing the proposed CCGT station and the existing station at Tilbury, from Windmill Hill, Gravesend
6.12. Noise and Vibration

6.12.1. Introduction

148. The proposed CCGT power station at Tilbury will include a number of large items of plant and equipment that have capacity to produce high noise levels during operation. Many of the main items of plant will be housed inside buildings, with other plant located externally.

149. There is potential for both temporary and permanent noise impacts on the existing environment at Tilbury and its surroundings. Temporary noise impacts may arise from construction and commissioning activities on the C station. Permanent noise impacts could arise from the commercial operation of the station, and associated traffic movements. In addition, temporary construction impacts may arise from laying the gas pipeline.

150. Whilst the Tilbury B and C station buildings are likely to be present on site together for a period of time, the coal fired B station must close under the LCPD by the end of 2015 (see Introduction; paragraph 4) main stations will not operate commercially simultaneously. The OCGTs at Tilbury B will be maintained on site and could be operated for up to 500 hours per year. Consequently the noise impact assessment will consider Tilbury C and the B station OCGTs.

6.12.2. Existing Data

151. A manned ambient noise survey was carried out at Tilbury in November 2007. The survey comprised short period sample measurements of typically between 5 to 15 minutes duration taken in rotation at four community reference positions, both north and south of the Thames Estuary during daytime and early night time periods. The measurements were taken in accordance with procedures outlined in BS4142: 1997 ‘Method of Rating Industrial Noise Affecting Mixed Residential and Industrial Areas’.

6.12.3. Further Work

152. It is currently anticipated that the data collected during this survey will be used and supplemented by long term noise monitoring at the site and in the surrounding area. The additional survey will be used both to verify the 2007 survey results and to review any requirement for obtaining measurements at alternative locations which may have sensitivity to this application site.

153. The pipeline study area is predominantly rural and the route corridor will avoid residential properties wherever possible. If any sensitive locations are identified an assessment of the environmental noise contributions from construction works will be completed.

154. A noise impact assessment will be carried out to demonstrate to the relevant Authorities that noise from the construction and commercial operation of the power plant can meet reasonable noise limit objectives.

155. Particular reference will be made to regional planning policy provided in planning policy guidance note PPG24, together with assessment procedures for construction and industrial noise, covered by BS5228-1: 2009 Noise and Vibration Control on Construction and Open Sites, and
156. Noise model predictions for the construction and operational phases of the proposed Tilbury C power station development will be undertaken to assess any changes to noise levels both during construction and on commencement of normal commercial operation.

157. Assessment will be made of potential noise impacts on the existing environment, covering the construction and operational phases of the Tilbury C development. Construction noise assessments will include impacts from traffic, vibration, and piling where appropriate.

158. Prediction of noise levels produced by the new development will be made based on sound power data provided by equipment suppliers and also based on measurements taken from similar power stations.

159. The predicted noise level data will be compared to existing background noise levels at the nearest sensitive residential locations around the development site and also to absolute ‘benchmark’ noise limits, as defined in PPC Horizontal Guidance for Noise (Part 1). The background noise baseline at Tilbury will be established by referencing the 2007 survey data, supplemented by the proposed additional long-term noise monitoring, with the receptor positions for this survey to be agreed with the local authority Environmental Health Officer. The objective of the additional long term monitoring is to provide a verification of the 2007 noise survey results and to allow the background noise baseline to be established under differing wind (particularly downwind) conditions. The environmental noise impact of the proposed power station will be assessed against the resulting noise change and by reference to the PPC benchmark noise limits.

160. Noise from traffic flows associated with the site will also be considered in the assessment of potential noise impacts. Predictions will be made in accordance with ‘Calculation of Road Traffic Noise Procedures’ issued by the Department of Transport Welsh Office. The assessment of traffic noise increase will be made by reference to the ‘classification of impact magnitude’ table included in the Highways Agency advice note ‘Design Manual for Roads and Bridges’ (DMRB) Volume 11, section 3 Part 7 Noise & Vibration (August 2008).

161. Predictions of environmental noise contributions from the different phases of construction works will be based on actual measurements recorded during the construction of similar CCGT power station construction sites.

162. The construction site perimeter noise level data will be used to calculate the average sound power over each construction phase, in accordance with the methodology provided in ISO 8297 ‘Determination of sound power levels of multi-source industrial plant for evaluation of sound pressure levels in the environment’.
The mitigating noise control measures that would be designed into the main plant items associated with the scheme will be incorporated into the noise model predictions. At an early stage, meetings will be held with the Environmental Health Officers of the relevant local authorities to agree the sensitive receptors to be included within the modelling and assessment.

### 6.13. Transport

#### 6.13.1. Introduction

The application site is located off Fort Road which is a single carriageway road running west of the application site. Fort Road connects to the A1089 approximately one mile from the site which provides a good direct link to the UK trunk road network.

Once operational the CCGT station will receive gas via pipeline and distillate fuel oil (back-up fuel) via the on-site jetty. Other small quantities of materials e.g. water treatment plant chemicals will be delivered by road as they currently are for the B station. During the operational phase the staffing level is expected to be less than is currently required on the operational B station. No new rail spur is proposed as part of this project.

The Tilbury power station site has facilities for marine off-loading which could be used to aid the movement of large components to the site. In addition there are opportunities within and adjacent to the site for providing a temporary marine off-loading facility during the construction phase. Furthermore Tilbury docks are located a short distance upstream from the power station and directly connected by Fort Road. The viability of using water borne traffic during the construction phase to reduce potential adverse effects of road traffic will be investigated as part of the assessment process. It is expected that ship traffic related to the C station would be less than that associated with the B station as there will be no need to transport coal to the site via the river.

During the construction phase there will be a temporary increase in road traffic. The peak period will last three months and during this time it is estimated that approximately 2150 vehicles will enter the site daily. This is based on a worst case that all 2000 staff travel independently. Approximately 7% of the traffic would be heavy goods vehicles with the remainder comprising cars and light vans etc. This estimation is based on data from a recently constructed similar plant at Staythorpe in Nottinghamshire.

The transportation impacts associated with the construction of the gas pipeline are temporary and short term in nature. During this period pipes, plant and other construction materials will be delivered and it is likely that the construction laydown area for the pipeline will be located within the existing station site boundary.

#### 6.13.2. Existing Data

As part of the work for the previous coal project baseline transport information was collated. This included primary data on the existing traffic flows through key junctions (collected in October 2007); and secondary data on accidents, public transport networks, pedestrian access and cycle routes.
The key traffic junctions were identified with Thurrock Council and the Highways Authority and it is proposed that the same junctions be included in the highway impact assessment for the gas station. These are:

- Tilbury Power Station site access / Fort Road (priority T-junction)
- Asda roundabout (A1089)
- Baker Street interchange (A1089 / A13)
- North Stifford interchange (A13)
- Lakeside interchange (A13 / A126)
- M25, Junction 30 roundabout (M25 / A13)

170. In addition, the swept path analyses of abnormal loads along Fort Road will be used for the gas station project. The component sizes for the gas station are unlikely to exceed those assessed for the previous coal project.

6.13.3. Further Work

171. The traffic flow data collected in 2007 will be used to inform the assessment of potential impacts from traffic associated with construction and operation of the gas station. For the gas pipeline the assessment will focus on construction traffic and the impact that the physical work could have upon the transport network in the locality.

172. The approach will follow standard guidelines such as the ‘Guidelines for Traffic Impact Assessment’ (Institution of Highways and Transportation). Relevant policies within the Thurrock Council Local Transport Plan 2006-2011 and relevant objectives in the Thurrock Transport Strategy 2008-2021 will be referred to where appropriate. The assessment methodology and the requirement for any mitigation measures due to the increase in traffic flow will be agreed with Thurrock Council highways department and the Highways Agency.

6.14. Socio-Economic Effects

6.14.1. Introduction

173. Thurrock has a diverse economy with logistics, distribution and retailing as major employment sectors. RWE npower has a long association with Tilbury and has developed relationships with local stakeholders and residents groups, to ensure that Tilbury B plays a positive role in the community.

174. The construction of Tilbury C will ensure that Tilbury remains an important site for electricity generation in the UK, and will continue to supply power to millions of homes. The C station is likely to employ a maximum of 100 staff, with up to 30 on site at a time once the station is operational. During construction, it is likely that the average number of construction workers on site will be 1000, with up to 2000 at peak times.

175. The proposed new Tilbury Energy and Environment centre will provide an important educational resource to school and college pupils with the surrounding habitats creating a beneficial learning environment.
6.14.2. Existing Data

176. The data collated in 2008 to characterise the socio-economic profile of Thurrock and the wider region will inform the assessment into the potential socio-economic impacts of the proposed CCGT station at Tilbury.

6.14.3. Further Work

177. The overall impact of the construction and operation of the new power station on the socio-economic status of the region will be assessed. The methodology will take account of advice set out in the DoE Good Practise Guide on Environmental Assessment 1995. The methodology consists of five key stages:

- Establishment of socio-economic baseline for the study area
- Identification of forecasted effects
- Assessment of the significance of forecasted effects
- Identification of possible requirements for mitigation and further opportunities to enhance the development
- Identification of residual effects

6.15. Cultural Heritage

6.15.1. Introduction

178. The cultural heritage assessment will consider both direct archaeological impacts and indirect impacts to the setting of scheduled ancient monuments (SAMs) and listed buildings. Known heritage assets of significance in the vicinity of the proposed development include Tilbury Fort and Coalhouse Fort. Tilbury Fort, located to the west of the proposed development, was built to protect the approach up the Thames to London from enemy ships. It is one of the best preserved examples of seventeenth century military engineering in England.

179. There are a number of archaeological sites and features recorded within the proposed application site boundary. The Essex Historic Environment Record (HER) includes the discovery of Palaeolithic and Neolithic artefacts, a Romano-British settlement and pottery scatters, a medieval seawall, possible medieval oyster beds and post medieval buildings.

180. The region has a strong industrial heritage, and in the Borough of Thurrock, particularly in the field of power generation. The Tilbury site celebrated 50 years of power generation in 2006.

181. Consultation with the Essex County Council Archaeologist and English Heritage Inspector took place during 2008 and 2009 as part of the previous coal project. This consultation comprised the agreement of the scope of archaeological works to inform the assessment process and a consideration of key views to and from significant heritage assets. Much of this information remains relevant to the proposed gas station project.

182. The data collection Study Area for the Archaeological aspect of the cultural heritage assessment will comprise the proposed development site and for the landscape approximately 500m beyond its boundary. The data collection area for the Built Heritage aspect of the cultural heritage assessment will comprise a radius of 5km from the centre of the proposed
Tilbury C power station. The archaeological assessment area for the gas pipeline will be determined when the preferred route corridor has been identified.

6.15.2. Existing Data
183. As part of the work for the previous coal project, a range of research was undertaken in order to present a robust baseline for the cultural heritage assessment. A desk based review of archaeological information and mapping was carried out. An archaeological watching brief of site investigation work on land to the west of the B station was also undertaken in 2008. An archaeological desk top appraisal for the gas pipeline was also completed in 2009. Data from these sources will be used to inform the assessment of archaeological impacts from the proposed development.

6.15.3. Further Work
184. The potential impacts to archaeology and built heritage from the proposed CCGT station and associated gas pipeline will be assessed. The assessment will consider the existing layout (Tilbury B) and the final layout (Tilbury B and Tilbury C). The assessment will also consider construction lay down areas. Mitigation measures to reduce impacts will be proposed where necessary.

6.16. Cumulative Impacts
185. The potential for cumulative impacts will be assessed during the EIA process and consideration will be given to existing developments and third party applications which are currently in the planning system. The combined effect of individual impacts, i.e. noise, dust and visual, from one development on a particular receptor will also be considered where appropriate. The developments or activities to be considered will be agreed by extensive and ongoing consultation with statutory and non-statutory consultees throughout the assessment.

6.17. Health, Safety and Security
186. The protection of the public, employees, business partners and customers from ill health or injury are fundamental to RWE npower’s business philosophy. The Company is committed to providing a safe, secure and healthy working environment for everyone involved in its business. The workplace will be used to promote a high standard of overall health and well-being for all those employed.

187. The design, procurement, construction, commissioning and operation of the new Tilbury C Power Station and gas pipeline will include processes and modern best practices that will ensure that the statutory responsibilities of the company for the health and safety of all its employees and others affected by its activities are maintained. Plant and equipment will be kept in a condition which is safe and without risk to health and be examined and tested in accordance with statutory requirements.

188. The EIA will take into account aspects of the Construction Design and Management Regulations where appropriate.
7. **Summary**

189. The production of this scoping report is an early stage in the EIA process and is designed to ensure that the environmental studies undertaken provide all the relevant information required for the full Environmental Statement. It is proposed that the EIA for the proposed CCGT power station and associated gas pipeline will include assessment of the following topic areas: air quality, the aquatic environment, terrestrial ecology, ground conditions, flooding, noise, transport, cultural heritage, landscape and visual amenity, and socio-economic impacts.

190. The final Environmental Statement will be published as part of a wide ranging consultation programme which will inform the local community, the regulators and other stakeholders of the proposed development.
8. **References**


DTI (2007), Energy White Paper


The Climate Change Act 2008
9. Appendix A

191. During the scoping process the IPC will consult with a range of statutory consultees to obtain their views on the proposals. The list of statutory consultees which RWE npower anticipates will be consulted by the IPC is provided below (Please note that the list is not comprehensive and may be subject to change):

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In addition, the following councils will be consulted:

- Thurrock Council
- Essex County Council
- Brentwood Borough Council
- Basildon District Council
- Castle Point Borough Council
- Kent County Council
- Medway Council
- Gravesham Borough Council
- Dartford Borough Council
- London Borough of Havering
10. Appendix B

Appendix B lists the non-statutory consultees which may be consulted by the IPC. Please note that this list is not comprehensive and may be subject to change:

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<td>Port of London Authority</td>
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<td>Thames Gateway South Essex Partnership</td>
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<td>Essex Amphibian and Reptile Group</td>
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<td>Thurrock Community Forums</td>
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<td>Tilbury Community Forum</td>
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<td>West Thurrock and South Stifford Community Forum</td>
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