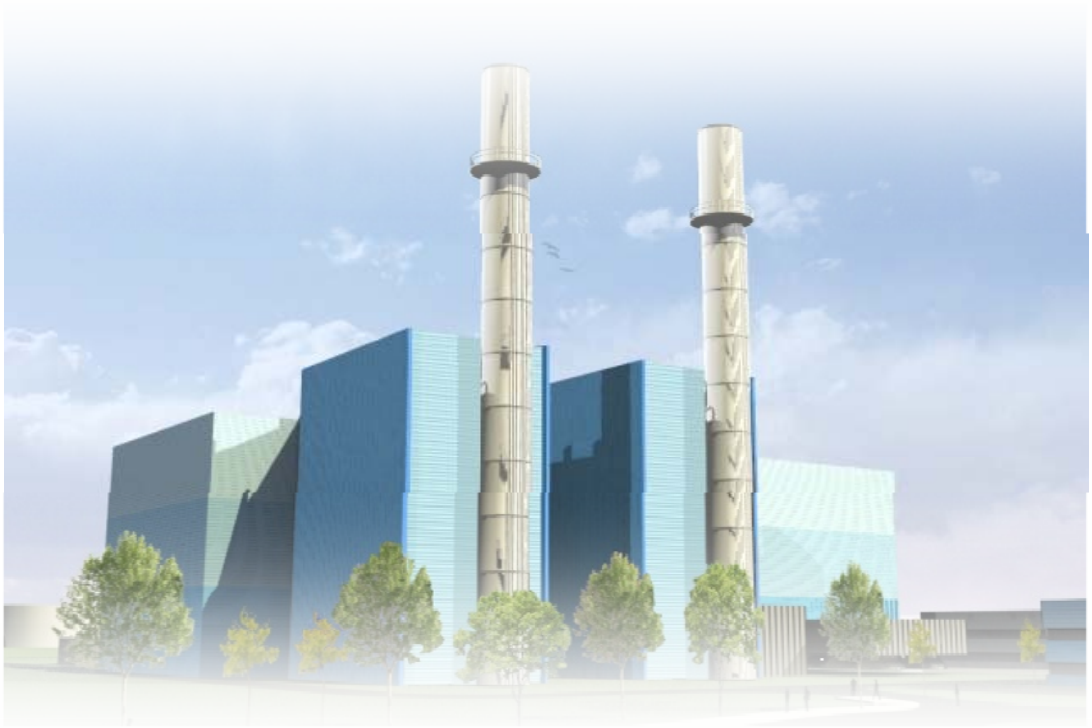
Gateway Energy Centre



ENVIRONMENTAL STATEMENT

Further Information Document

Prepared by

PARSONS BRINCKERHOFF

125 YEARS

December 2010

CONTENTS

LIST OF ABBREVIATIONS

ACC	air cooled condensers
AGI	Above Ground Installation
AOD	Above Ordnance Datum
BAT	Best Available Techniques
CCGT	Combined Cycle Gas Turbine
CCR	Carbon Capture Ready
CCS	Carbon Capture and Storage
CECL	Coryton Energy Centre Limited
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CO_2	carbon dioxide
CPBC	Castle Point Borough Council
CTMP	Construction Transport Management Plan
DAS	Design and Access Statement
DCVG	Direct Current Voltage Gradient
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EELGA	East of England Local Government Association
EDF	Électricité de France
EIA	Environmental Impact Assessment
ES	Environmental Statement
FRA	Flood Risk Assessment
GAC	General Assessment Criteria
GEC	Gateway Energy Centre
GECL	Gateway Energy Centre Limited
ha	Hectares
HDD	Horizontal Direction Drill
HGV	Heavy Good Vehicle
HRSG	heat recovery steam generators
HSC	hazardous substance consent
HV	high voltage
IEEM	Institute of Ecology and Environmental Management
IPC	Infrastructure Planning Commission
km	Kilometers
LPA	Local Planning Authority
LG	London Gateway
LGD	London Gateway Development
LGTPC	London Gateway Travel Plan Committee
LVIA	Landscape and Visual Impact Assessment
m	Metre
mg/Nm^3	milligrams per normal metre cubed
MOC	Minimum Offtake Connection

MOD	Ministry of Defence
mph	miles per hour
MWe	megawatts electric
NE	Natural England
NGET	National Grid Electricity Transmission
NO_x	oxides of nitrogen
NPS	National Policy Statements
NTaS	National Grid National Transmission System
OCGT	open cycle gas turbine
PIG	Pipeline Internal Gauge
OPA	Outline Planning Application
PLA	Port of London Authority
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
RS	Regional Strategies
RSPB	Royal Society for the Protection of Birds
SINC	Site of Importance for Nature Conservation
SSD	Stopping Sight Distance
SSSI	Sites of Special Scientific Interest
SWMP	Site Waste Management Plan
TA	Transport Assessment
TMP	Transport Management Plan
TTGDC	Thames and Thurrock Gateway Development Corporation
VER	Valued Ecological Receptors
UK	United Kingdom
ZTV	Zone of Theoretical Visibility

SECTIONS 1 TO 18

SUMMARY OF FURTHER INFORMATION

OVERVIEW

In February 2010, Gateway Energy Centre Limited (GECL) submitted an application for Consent under Section 36 of the Electricity Act 1989 to the Department of Energy and Climate Change (DECC) to construct a Combined Cycle Gas Turbine (CCGT) Power Plant to be known as Gateway Energy Centre or GEC. In addition, a direction that planning permission be deemed to be granted under Section 90 of the Town and Country Planning Act 1990 was also sought. The Consent application was accompanied by an Environmental Statement (ES) prepared in accordance with the requirements of the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 (as amended).

GEC will be located on land within the London Gateway Port / London Gateway Logistics and Business Park development, collectively called the LG Development, which is currently in the early stages of construction. The LG Development is being promoted by DP World.

GEC will provide up to 900 megawatts (MW) of electrical generation capacity. This will include the provision of up to 150 MW to the LG Development, which is expected to meet its long-term requirements. Additionally, GEC will be designed in such a way as to enable the supply of heat in the form of steam or hot water (for use in production / space heating/ cooling) to facilities and / or customers in the vicinity of the GEC site (in particular to prospective customers of the LG Development).

Summary of Consultee Responses and Actions Taken

Following submission of the Section 36 Consent application, consultation responses were received and meetings were held with key consultees. In these consultation responses and meetings, a number of clarifications on the Consent application were sought, and supplementary information was requested. The consultation responses are provided in Appendix A and summarised in Section 8 with reference to where these are addressed within this document.

The clarifications on the Consent application and requested supplementary information are provided in this document. This document follows the sequence of the original ES submitted in support of the Section 36 Consent application. Where there are no additions or changes to the original text in the ES, this is stated at the beginning of the section.

The application, made under Section 36 of the Electricity Act 1989 (including deemed planning permission under Section 90 of the Town and Country Planning Act 1990) was advertised in accordance with the requirements of Regulation 4 of the Electricity (Applications for Consent) Regulations 1990.

The supplementary information for the Section 36 Consent application for GEC (which consists of this Further Information Document and additional information) is being advertised in accordance with Regulation 14 and 14A of the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 (as amended). This information has been provided to the Secretary of State, and a copy served on the relevant planning authorities. These are: Thurrock Borough Council (TBC) and Thurrock Thames Gateway Development Corporation (TTGDC).

Notice of the supplementary information is being published for two successive weeks in the:

- London Gazette;
- Thurrock Gazette; and
- Yellow Advertiser (Thurrock Edition).

A copy of the supplementary information may also be inspected during normal office hours at the following addresses:

Thurrock Council
Civic Offices
New Road
Grays
Essex
RM17 6SL

Opening hours:	Monday to Thursday:	8:45 am to 5:15 pm
	Friday:	8:45 am to 4:45 pm

Thurrock Thames Gateway Development Corporation
Gateway House
Stonehouse Lane
Purfleet
Essex
RM19 1NX

Opening Hours:	Monday to Friday:	9 am to 5 pm

Stanford-Le-Hope Library
High Street
Stanford-Le-Hope
Essex
SS17 0HG

Opening hours:	Monday:	10 am to 1pm / 2 pm to 6 pm
	Tuesday:	10 am to 1pm / 2 pm to 5 pm
	Wednesday:	Closed
	Thursday:	10 am to 1pm / 2 pm to 6 pm
	Friday:	10 am to 1pm / 2 pm to 5 pm
	Saturday:	10 am to 1pm / 2 pm to 5 pm

Corringham Library
Communities, Libraries and Cultural Services
St John's Way
Corringham
Essex
RM17 7LJ

Opening hours:	Monday:	9 am to 7 pm
	Tuesday:	9 am to 5 pm
	Wednesday:	9 am to 1 pm
	Thursday:	9 am to 7 pm
	Friday:	9 am to 5 pm
	Saturday:	9 am to 5 pm

An electronic version of the supplementary information and the Section 36 Consent application and associated reports, including the ES, can be downloaded free of charge at the GEC website:

www.gatewayenergycentre.co.uk.

Paper copies of the supplementary information can be purchased for a fee of £250 by writing to:

Chris Brake
Dalton Warner Davis LLP
21 Garlick Hill
London
EC4V 2AU

CD copies of the supplementary information can be purchased for a fee of £5 each.

Copies of the Non-Technical Summary are available free of charge.

Any objections to the proposals, stating the name of the power station and the grounds of the objection, should be made in writing to the Secretary of State for the Department of Energy and Climate Change not later than 21 January 2011, c/o:

Gary Mohammed,
Manager,
Conventional Power Stations and Gas Pipeline Consents,
Area A,
3rd Floor,
DECC,
3 Whitehall Place,
London
SW1A 2AW

E-mail to: gary.mohammed@decc.gsi.gov.uk

Other representations are also welcome. Unless otherwise indicated, copies of any objections and other representations received will be regarded as public documents.

Any subsequent additional information received by the Secretary of State before determination of the applications, if considered materially relevant, will be forwarded to TBC and TTGDC to be placed on the planning register and made available for public inspection with any queries about this being dealt with by the Department of Energy and Climate Change. In accordance with the requirements of Regulation 14A(2) of the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 (as amended), on the first occasion on which the applicant is notified of the service of additional information, the applicant will publish notices in accordance with Regulation 14A(3).

This document is structured as follows:

- ***Sections 1 to 18 –*** Further information in relation Sections 1 to 18 of Volume 1 of the ES
- ***Section 19 –*** Indirect / Secondary and Cumulative Impacts
- ***Appendix A –*** Consultation Responses
- ***Appendix B –*** Framework Sustainability Plan
- ***Appendix C –*** LG Development OPA Conditions

In addition, this document is supported by the following stand alone documents (the additional information):

- ***Supplementary Combined Heat and Power (CHP) Assessment (CHPA);***
- ***Revised Design and Access Statement (DAS);***
- ***Supplementary Flood Risk Assessment (FRA);***

- ***Transport Report (TR); and***
- ***Supplementary Planning Statement.***

In this document, further information is provided under a number of different headings. Where the heading 'InterGen Response' is set out, the further information provided under that heading is provided by Parsons Brinckerhoff (PB).

1 INTRODUCTION

No changes / clarification / supplementary information required.

2 RATIONALE FOR DEVELOPMENT

2.1.1 No changes / clarification / supplementary information required.

3 PLANNING POLICY CONTEXT

3.1 Update to Planning Policy Context ES Section 3

Overview

3.1.1 Since preparation of the ES there have been some changes in planning and energy policy. These changes are summarised below.

3.1.2 On 20.05.10, the Coalition Government published '*The Coalition: Our Programme for Government*' in which it announced, among other matters, an intention to:

- Abolish regional spatial strategies;
- Reform the planning system;
- Abolish the Infrastructure Planning Commission (IPC);
- Place before Parliament a national planning framework;
- Maintain the Green Belt and Sites of Special Scientific Interest (SSSI);
- Ensure protection of wildlife, wildlife corridors, habitats and biodiversity;
- Prevent unnecessary building in areas of high flood risk;
- Reduce carbon emissions and decarbonise the economy; and
- Place before Parliament a national energy planning statement.

3.1.3 Announcements have been made implementing some of the above, namely:

- A major infrastructure planning unit is to be established in the Planning Inspectorate, replacing the IPC (see paragraph 3.1.15);
- The Secretary of State for Communities and Local Government announced his intention on 6.7.10 to revoke regional strategies, this decision was quashed by the High Court on 10.11.10 (see paragraph 3.1.7); and
- The Government published on 18.10.10, Revised Draft National Policy Statements in respect of energy; these are open for consultation until 24.1.11 (see paragraphs 3.1.5, 3.1.18-3.1.27).

3.1.4 Other policy changes were introduced prior to the formation of the Coalition Government (PPS 4, PPS 5, PPS 25; PPS 7 was not addressed in the ES):

- PPS 4 – Planning for Sustainable Economic Growth (December 2009) would include the proposed GEC as economic development described at ES 3.3.5 (see paragraph 3.1.8);
- PPS 5 – Planning for the Historic Environment (March 2010) replaces the former PPG 15 – Planning and the Historic Environment and PPG 16 – Archaeology and Planning at ES 3.3.11, 3.3.12 (see paragraph 3.1.9);
- PPS 7 – Sustainable Development in Rural Areas (2004) is relevant to the provision of gas and electrical infrastructure in the countryside (see paragraph 3.1.10);

- PPS 25 – Development and Flood Risk (March 2010) replaces the earlier version of PPS25 (2006) at ES 3.3.19 (see paragraphs 3.1.11/12); and
- Gas Security of Supply (April 2010) published by DECC reaffirmed that gas is an essential part of the UK's energy mix (see paragraph 3.1.13).

3.1.5 The following documents have been introduced by the Coalition Government:

- DCLG Circular - Guidance on Information (Requirements and Validation) (March 2010) replaces *Circular 1/2006 - Guidance on Changes to the Development Control System (2006)* Section 3 (ES 3.3.24); SI 2010/567 Article 4C General Permitted Development Order 1995 (as amended) sets out the requirements for a design and access statement; this matter is not discussed further;
- The Annual Energy Statement DECC Departmental Memorandum 27 July 2010 fulfils the commitment of the Coalition Programme for Government to present an annual statement of energy policy to Parliament (see paragraph 3.1.14);
- Planning Act 2008 (PA 2008) - on 29.6.10, the Decentralisation Minister confirmed that legislation will be introduced, resulting in changes to the PA 2008; ES 3.3.35 is replaced; the PA 2008 also introduced the concept of national policy statements for nationally significant infrastructure projects (see paragraph 3.1.15-17);
- Revised Draft Overarching National Policy Statement for Energy (EN-1) (October 2010) replaces the earlier EN-1 at ES 3.3.36 (see paragraphs 3.1.18-24);
- Revised Draft National Policy Statement for Fossil Fuel Electricity Generation (EN-2) (October 2010) replaces the earlier EN-2 at ES 3.3.37 (see paragraph 3.1.25);
- Revised Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (October 2010) is relevant to gas pipelines (see paragraph 3.1.26); and
- Revised Draft National Policy Statement for Electricity Networks Infrastructure (EN-5) (October 2010) is relevant to electrical infrastructure (see paragraph 3.1.27).

3.1.6 Three further documents are relevant:

- Draft National Policy Statement for Ports (November 2009) includes reference to London Gateway (see paragraph 3.1.28);
- The position regarding national policy is explained further (see paragraph 3.1.29; policies in the RS (East of England Plan) are described in the ES 3.4.1-30; and
- Consultation occurred on Thurrock Council's Core Strategy and Policies for Management of Development, DPD February 2010 (see paragraphs 3.1.30-38).

Legislative Background

3.1.7 On 6.7.10, the Secretary of State for Communities and Local Government purported to revoke all regional strategies ("RS") relying on the power granted to him by section 79(6) of the Local Democracy, Economic Development and Construction Act 2009. On 10.11.10, the Secretary of State's decision to revoke the RSs was quashed by the High Court in the case of *Cala Homes (South) Limited v. Secretary of State for Communities and Local Government and Winchester City Council [2010] EWHC 2866*

(Admin). The East of England Plan (EEP) 2008 remains part of the development plan. On 10.11.10, the Secretary of State made a written parliamentary statement in which he drew attention to his letter to local authorities dated 27.5.10 which gave notice of the Government's intention to abolish RSs, and he made available a draft clause in the proposed Localism Bill which if enacted will repeal Part 5 of the Local Democracy, Economic Development and Construction Act 2009 and would revoke RSs.

National Policy

Planning

3.1.8 *PPS 4 – Planning for Sustainable Economic Growth (2009):* Policy EC2.1a requires local planning authorities to set out a clear economic vision and strategy for their area which "*positively and proactively encourages sustainable economic growth*". EC10.1 requires local planning authorities to adopt "*a positive and constructive approach towards planning applications for economic development" and notes that applications that "secure sustainable economic growth should be treated favourably*". However, even if it were considered that a proposal did not accord with the development plan economic considerations would play an important part in the decision making process. Policy EC11 states that when considering planning applications for economic development (other than main town centre uses) not in accordance with an up to date development plan local planning authorities should: (a) weigh market and other economic information, alongside environmental/social information; (b) take full account of longer term benefits (as well as costs of development), such as job creation or improved productivity including any wider benefits to national, regional or local economies; and (c) consider whether those proposals help to meet the wider objectives of the development plan. *PPS 5 – Planning for the Historic Environment* (March 2010) replaced the former *PPG 15 – Planning and the Historic Environment* and *PPG 16 – Archaeology and Planning*; the new PPS is supported by a Practice Guide, endorsed by the Department for Communities and Local Government, the Department for Culture, Media and Sport and English Heritage. The PPS sets out the Government's objectives for planning for the historic environment; these include conserving heritage assets in a manner appropriate to their significance by ensuring that decisions are based on the nature, extent and level of that significance and investigated to a degree proportionate to the importance of the heritage asset. Among the policies, Policy HE2 requires Local Planning Authorities (LPAs) to ensure they have evidence about the historic environment and heritage assets of their area; Policy HE6 states that LPAs should require an applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance; Policy HE7 sets out the policy principles guiding the determination of applications for consent relating to all heritage assets; Policy HE12 describes the policy principles guiding the recording of information related to heritage assets including that the extent of the requirement should be proportionate to the nature and level of the assets' significance.

3.1.9 *PPS 7 – Sustainable Development in Rural Areas* (2004) sets out national policies on development in rural areas, including the wider, largely undeveloped countryside up to the fringes of larger urban areas. Planning policies are required to recognise the environmental, economic and social value of the countryside, continue to ensure that the quality and character of the wider countryside is protected and where possible enhanced, with particular regard to areas that have been statutorily designated for their landscape, wildlife or historic qualities, where greater priority should be given to restraint of potentially damaging development (paragraphs 14, 15, 16). The use of best and most versatile agricultural land (grades 1, 2, 3a) for development should be taken into account alongside other sustainability considerations, e.g. biodiversity , quality and character of landscape, amenity value, heritage, interest, access to

infrastructure, work force, markets, maintaining viable communities and protection of natural resources including soil quality (paragraph 28). Nationally designated areas, such as National Parks and Areas of Outstanding Natural Beauty, have been confirmed by Government, as having the highest status of protection in relation to landscape and scenic beauty (paragraph 21). If major development is proposed in such areas, before being allowed to proceed, applications should address need and national interest, cost and scope for undertaking the development elsewhere, or in some other way and any detrimental effects and opportunities for mitigation. Where planning permission is granted for development in designated areas, it should be carried out to high environmental standards, through the application of appropriate conditions (paragraphs 22-23).

3.1.10 *PPS 25 – Development and Flood Risk* re-published in March 2010 explains how flood risk should be considered at all stages of the planning process and seeks to avoid inappropriate development in areas at risk of flooding and to direct development away from areas at highest risk (paragraph 5). In determining planning applications LPAs should, among other considerations, apply the "Sequential Approach" to minimise risk, directing the most vulnerable development to areas of lowest flood risk and matching vulnerability of land use to flood risk (paragraph 8). This should be applied at all levels of the planning process, to demonstrate that there are no reasonably available sites in areas with a lower probability of flooding that would be appropriate to the type of development/land use proposed (paragraphs 14-17 and Annex D). If, following application of the sequential test in Annex D, it is not possible, consistent with wider sustainability objectives for the development to be located in zones with a lower probability of flooding, the Exception Test can be applied as a means of managing flood risk while still enabling necessary development to occur (paragraph 18).

3.1.11 Paragraph D.9 explains that for the Exception Test to be passed it must be demonstrated that: (a) the development provides wider sustainability benefits to the community that outweigh flood risk; (b) the development should be on previously developed land; and (c) FRA can demonstrate that the development will be safe without increasing flood risk elsewhere and where possible will reduce flood risk overall. Essential infrastructure in a high risk area, needs to be designed and constructed to remain operational and safe for users in times of flood. The Exception Test should be applied by decision makers only after application of the Sequential Test and in the circumstances of Annex D Table D.1 when essential infrastructure cannot be located in Zones 1 or 2 (paragraph D10). Table D.2 comments on flood risk vulnerability classification (including "essential infrastructure"). It defines "essential infrastructure" as that which has to be in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations that need to remain operational in times of flooding. The table includes in the definition of "highly vulnerable", installations requiring hazardous substance consent (HSC); such installations as energy infrastructure or carbon capture and storage that require coastal or water side locations or need to be located in other high flood risk areas, should be classified as "essential infrastructure". Table D3 matches flood risk vulnerability and flood zone compatibility. It indicates that in Zone 3a (High Probability) and Zone 3b (The Functional Floodplain) essential infrastructure uses require application of the Exception Test.

Energy

3.1.12 *Gas Security of Supply policy statement from the Department of Energy and Climate Change April 2010* confirms that "*as the cleanest and most reliable fossil fuel, gas will continue to play a central role in the UK's energy mix out to 2020 and beyond. In particular, gas fired electricity generation will help to maintain system flexibility as intermittent, renewable generation is scaled up (paragraph E.3) …*". "*Gas plays an*

important role in providing security of electricity supply … Hence, it will be important that the gas market delivers the necessary infrastructure and suppliers to enable flexible gas fired generation to meet peak electricity demand" (paragraph E.23). The Statement recognises gas power stations as playing an invaluable role in "providing a reliable source of electricity and in smoothing supply across the system." (paragraph 1.9).

3.1.13 *The Annual Energy Statement DECC Departmental Memorandum 27 July 2010* finds that UK gas supplies are healthy but, that in achieving a low carbon economy, the Government will encourage more investment in oil and gas production, promote strengthened bilateral relationships with key suppliers, achieve enhanced price stability through greater transparency, strengthen dialogue and shared information and promote low carbon growth. It describes coal and gas as remaining important for electricity generation in the medium term by providing base load generation capacity alongside nuclear and complementing intermittent renewables (page 18). It also sees carbon capture CCS as vital because it will enable coal and gas to continue this function without jeopardising emission reduction goals, thereby meeting security of supply needs (page 18).

3.1.14 *The Planning Act 2008 (PA 2008)* has introduced a new system of development consents for nationally significant infrastructure projects (NSIPs), including certain types of energy projects. The Act provides for a major role in the new system to be played by an independent body, the Infrastructure Planning Commission (IPC), which is to be responsible for examining applications for development consents for NSIPs, taking account of Government policy to be set out in National Policy Statements (NPSs). On 29.6.10, the Decentralisation Minister confirmed that the IPC will be abolished and replaced with a major infrastructure planning unit (MIPU) as part of the Planning Inspectorate, that NPSs will be ratified by Parliament and that decisions on NSIPs will be made by the Secretary of State. These changes will be incorporated in primary legislation the proposed Localism Bill which is expected to be brought before Parliament in 2010.

3.1.15 Section 14 PA 2008 includes in the list of NSIPs "*the construction or extension of a generating station*". Section 15 states that a generating station is within the sub-section if:

- "*It is in England or Wales;*
- *It is not an offshore generating station, and*
- *Its capacity is more than 50 megawatts*."

3.1.16 On this basis, the proposed GEC would, if the application had been made at any time from 1.3.10, be a NSIP and would therefore have to be submitted under the PA 2008 to the IPC. However because this Application was submitted to DECC in February 2010 under the Electricity Act 1989, it will be determined accordingly.

3.1.17 A letter to Chief Planning Officers from the Department of Communities and Local Government's (DCLG's) of 9.11.09 drew attention to the existence of the draft NPSs which has just been issued by the previous Government. It stated that "*The new single consent regime for NSIPs will operate alongside the Town and Country Planning regime ….. NPSs, are not part of the statutory development plan for purposes of the town and country planning regime but are statements of national policy on nationally significant infrastructure … local planning authorities (LPAs) must therefore have regard to NPSs when preparing their plans at regional and local level. Emerging policy in a published draft NPS may also be relevant*" (paragraph 14). Following consultation on draft NPSs in 2009, the Government has now issued Revised Draft NPSs, of which EN-1 and EN-2 are relevant to GEC; similarly, EN-4 and EN-5 are relevant to infrastructure associated with GEC. It is also noted in the

NPSs that they are likely to be material considerations in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended), to be judged on a case by case basis.

3.1.18 *Revised Draft Overarching National Policy Statement for Energy (EN-1)* sets out national policy for the energy infrastructure constituents of the NSIPs listed in EN-1, namely onshore generating stations of more than 50 MW (and 100 MW offshore), produced from fossil fuels, wind, biomass, waste and nuclear (in respect of the sites listed in the Nuclear NPS EN-6 (EN-1, paragraph 1.3.2). Other forms of energy NSIPs include electricity lines at or above 132 kV, large gas reception, liquefied natural gas (LNG) facilities, underground gas storage and oil/gas pipelines, subject to specified minimum size limitations.

3.1.19 Part 2 EN-1 states that "*energy is vital to economic prosperity and social wellbeing and so it is important to ensure that the UK has secure and affordable energy*" (paragraph 2.1). It considers that in making the transition to a low carbon economy, it is critical that the UK continues to have secure and reliable supplies of electricity and that to manage the risks, the country needs (paragraph 2.2.20):

- sufficient capacity (including a greater proportion of low carbon generation) to meet demand at all times, requiring a safety margin of spare capacity;
- capacity and associated fuel supply chains; e.g. for power stations, must be reliable enough to meet demand as it arises;
- a diverse mix of technologies and fuels; and
- effective price signals so that market participants have sufficient incentives to react in a timely way to minimise supply/demand imbalances.

3.1.20 In the medium term, EN-1 considers there is a need to invest in additional infrastructure, particularly for electricity generation, gas importation and storage (paragraph 2.2.21) and, while the objective is to deliver more power from renewables and nuclear and to deliver CCS, it is accepted that fossil fuels for electricity generation will still be needed during the transition to a lower carbon economy (paragraph 2.2.23).

3.1.21 Part 3 considers the need for new NSIP projects and Section 3.1 sets out "*the planning policy*", stating.

"*The UK needs a mix of all types of energy infrastructure in order to achieve energy security at the same time as dramatically reducing greenhouse gas emissions.*

It is for industry to propose new energy infrastructure projects within the strategic framework set by Government. The Government does not consider it appropriate for planning policy to set targets for or limits on different technologies.

The IPC should therefore assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the need for those types of infrastructure has been demonstrated by the Government and that this need is urgent.

The IPC should give substantial weight to the contribution which projects would make towards satisfying this urgent need when considering applications for development consent under the Planning Act 2008."

3.1.22 It is explained, with regard to the need for new NSIPs, that electricity meets a significant proportion of our overall energy needs and that the country's reliance on it is likely to increase (paragraph 3.3.1). EN-1 therefore discusses, meeting energy security and carbon reduction objectives, replacement of closing electricity generating capacity, the need for more electricity capacity to support an increased supply from

renewables, future increases in electricity demand, the urgency of the need for new electricity capacity, alternatives to new large scale electricity generation capacity, more intelligent use of electricity and interconnection of electricity systems (Section 3.3).

3.1.23 The need for new electricity NSIPs is summarised below.

Topic	***Explanation***
Meeting energy security and carbon reduction objectives (paragraphs 3.3.2-6)	There needs to be sufficient electricity generating capacity to meet maximum peak demand with a safety margin, or spare capacity; the larger the safety margin, the more resilient the system. There are benefits of having a diverse mix of all types of power generation: - nuclear is a proven technology, able to provide continuous low carbon generation, capable of responding to variations in demand but it is not as cost efficient used in this way compared to fossil fuel generation; - renewables offer a lower carbon source but many are intermittent; - fossil fuel generation is responsive, complementing generation from nuclear and intermittent renewables but without CCS will not be low carbon. Government would like industry to bring forward as many new low carbon developments as possible, including fossil fuel generation with CCS but it is for industry to propose what is viable; the IPC should adopt the Policy 3.1.
Need to replace closing electricity generating capacity (paragraphs 3.3.7-9)	In the UK, at least 22 GW of existing generating capacity must be replaced in the coming years, (particularly to 2020), comprising 12GW of coal/oil generating plant due to close as a result of the Large Combustion Plant Directive (LCPD) by 2015 and 10 GW of nuclear over the next 20 years and further closures resulting from the Industrial Emissions (Integrated Pollution Prevention and Control) Directive.
Need for more electricity capacity to support increased supply from renewables (paragraphs 3.3.10-12)	The Government is committed to dramatically increasing the amount of renewable generation; much of it will help to improve energy security; however, wind, solar, tidal energy are intermittent and not all renewable sources can be easily adjusted to meet demand. Increased renewables will require additional back up capacity, thereby requiring increased total electricity capacity; even when electricity supplies are almost entirely decarbonised, fossil fuel power stations may still be required for short periods.
Future increases in electricity demand (paragraphs 3.3.13/14)	Reductions in electricity consumption from improved efficiency will be far outweighed by increases in electricity demand; generation capacity will need at least to double and possibly triple if a significant proportion of electricity is from intermittent sources.
Urgency of the need for new electricity capacity (paragraphs 3.3.15-25)	There is an urgent need for new (and particularly low carbon) energy NSIPs to be brought forward as soon as possible (note fossil fuel with CCS is low carbon (paragraph 3.3.5)). From the Updated Energy & Emissions Projections (UEP) (June 2010), the Government considers the "high fossil fuel and carbon price scenario" as indicating that, by 2025, the UK might need around 113 GW of total electricity capacity (compared to around 85 GW now), of which 59 GW would be new build. Around 33 GW of new capacity would need to come from renewables to meet energy commitments, of which 2 GW is under construction; industry should determine the mix

Topic	*Explanation*
	of the remaining 26 GW of which 8 GW is under construction. The Government would like a significant proportion of the remainder to be provided by new low carbon generation and believes that it is prudent to plan for a minimum of 59 GW of new electricity capacity by 2025.
Alternatives to new large scale electricity generation (paragraphs 3.3.26-35)	Government has considered means of reducing demand, more intelligent use of electricity and interconnection of electricity systems as alternatives to new large scale generating capacity. It has found that current policies will reduce electricity demand in certain areas but savings will be offset by increases in other areas; decentralised and community energy systems could lead to some reduction in demand; however, Government does not believe this will lead to significant replacement of larger scale infrastructure, which offers economic and other benefits such as the efficient bulk transfer of power. It is expected that demand side management, storage and interconnection will play important roles in a low carbon electricity system but still envisages backup capacity being necessary to ensure security of supply until other storage technologies reach maturity. Increased investment in interconnection is unlikely to reduce the need for new infrastructure to any great extent. Overall, the Government believes that, while these positive measures should be actively pursued, their effect on the need for new large scale energy infrastructure will be limited, particularly given the need for electricity for domestic/industrial heating and transport.
Role of renewable electricity generation (paragraphs 3.4.1-3)	The UK has committed to sourcing 15% of its total energy from renewable sources by 2020, which is predicted to reduce fossil fuel demand by around 10% and gas imports by 20-30%.
Role of nuclear electricity generation (paragraphs 3.5.1-11)	Nuclear power generation is anticipated to play an increasingly important role as the country moves to diversify and decarbonise sources of electricity, increase the resilience of the energy system and reduce risks of supply interruption. New nuclear power is one of three key elements of the Government's strategy to move towards a decarbonised, diverse electricity sector by 2050 (along with renewables and fossil fuels with CCS). The Government envisages new nuclear power complementing renewables and fossil fuels with CCS; it considers that nuclear technology is proven and can be deployed on a large scale and that it is realistic for new nuclear power stations to be operational from 2018 with deployment increasing, moving towards 2025
Role of fossil fuel electricity generation (paragraphs 3.6.1-3)	Fossil fuel power stations play a vital role in providing reliable electricity supplies; they can be operated flexibly in response to changes in supply/demand, provide diversity in energy mix and continue to provide an important role as the UK makes the transition to a low carbon economy. Government policy is that fossil fuel power stations must be constructed and operated in line with increasingly demanding climate change goals; they contribute to security of energy supply by using fuel from a variety of suppliers and acting flexibly; unlike renewable energy sources such as wind power, fossil fuels may be stored in anticipation of future energy demand. New fossil fuel generation will provide some of the new capacity to maintain security of supply and to provide flexible backup for intermittent renewable energy, while fossil fuels generate

Topic	*Explanation*
	emissions of carbon dioxide, coal typically produces about twice as much per unit of electricity generated than gas.
Carbon capture and storage (paragraphs 3.6-4.6)	CCR offers the potential to reduce CO_2 emissions of up to 90%; the complete chain of CCS has yet to be demonstrated at commercial scale on a power station; there is a high level of confidence that the technology will be effective but there are some uncertainties about the economics.
Need for new electricity network infrastructure (paragraphs 3.7.1-10)	Lack of sufficiently robust electricity networks can cause / contribute to large scale interruptions and spikes in electricity prices; existing transmission / distribution networks will have to evolve; construction of new high voltage lines will be needed to meet significant national need for expansion / reinforcement of the networks. The IPC should assume that the need for any proposed high voltage line has been demonstrated in principle and for particular lines, it should assume the line is needed if it is an efficient / economical means of connecting a generating station to the distribution network, or reinforces the network so that it is sufficiently resilient to supply current / anticipated future levels of demand.
Need for nationally significant gas infrastructure (paragraphs 3.8.1-4)	Reliance on fossil fuels will fall; however the transition will take some time and gas will continue to play an important part in the UK's fuel mix for some years to come. The share of gas in UK primary energy demand is expected to fall from 38% in 2010 to 33% in 2020, then rise again to around 36% by 2025 as the use of coal for electricity generation declines. Gas is the cleanest and most reliable fuel and likely to continue to be a central part of the energy mix during the transition to a low carbon economy; in the power generation sector it is a reliable source of flexible, firm power generating capacity and as backup to intermittent renewables, so underpinning security of supply and price stability in the electricity market.

3.1.24 EN-1, Part 4 sets out the assessment principles to be addressed when assessing applications for NSIPs. The IPC is required to adhere to specified key principles when examining and determining applications (paragraph 4.1.1); including the assumption set out in Part 3 that there is an urgent need for new major energy infrastructure (EN-1, 3.1). The decision makers should also take into account national, regional and local benefits (environmental, social, economic), including the contributions made by the need for energy infrastructure, job creation and wider benefits and the relative benefits and dis-benefits identified by the EIA process. Before any application is refused, the adverse impacts must outweigh the project benefit, taking into account mitigation measures. The matters to be considered are listed below; all of these have been addressed in the application, namely the provision of an environmental statement, consideration of the requirements of the Conservation of Habitats and Species Regulations 2010; explanation of alternatives; importance of good design; consideration of combined heat and power (CHP); demonstrating that the project is CCR, enabling the eventual provision of CCS; climate change adaptation; grid connection requirements; pollution control / other environmental regulatory regimes; safety; hazardous substances; health; common law nuisance; statutory nuisance and security considerations.

3.1.25 Of the above, all relevant matters have been addressed in the EIA process and presented in the ES and accompanying documents (EN-1, 4.3). In particular, it is advised that the question of whether the project is likely to have a significant effect on European designated sites alone, or in combination with other plans or projects

should be considered. The approach taken in this case at the screening stage has been to follow the approach taken in the Waddenzee[1] case namely:

"*45. In the light of the foregoing, the answer to Question 3(a) must be that the first sentence of Art.6(3) of the Habitats Directive must be interpreted as meaning that any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects."*

3.1.26 Although there is no general policy requirement to consider alternatives (EN 4.4.) or establish whether the proposed project represents the best option, given the level and urgency of need for new energy infrastructure; the IPC should consider whether there is a realistic prospect of the alternative delivering the same infrastructure capacity in line with the urgency of the need and have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed, may be needed for future proposals. In considering design (EN-1, 4.5), the IPC needs to be satisfied that the development is sustainable and, having regard to other constraints, whether it is as attractive, durable and adaptable as it can be and that the applicant has taken into account both functionality and aesthetics. CHP is discussed at EN-1, 4.6; it notes that CHP may either supply steam direct to customers or capture waste heat for low pressure steam, hot water or space heating after it has been used to drive electricity generating turbines. Reference is made (EN1 4.6.6) to existing guidelines issued by Department for Business, Innovation and Skills (then DTI) in 2006. Utilisation of waste heat that displaces conventional heat generation from fossil fuel sources is encouraged where it is more efficient that the alternative electricity / heat generation mix. Matters relating to CCR (EN-1, 4.7) are discussed comprehensively in the report Carbon Capture Ready (CCR) Feasibility Study. There is advice on how applicants and the IPC should take the effects of climate change into account when planning the location, design, build, operation and decommissioning of infrastructure; there should be no critical features of the design which may be affected by more radical changes in the climate; any adaptation measures should themselves be assessed (EN-1, 4.8). Grid connection (EN-1, 4.9) is not part of this application; however, it is recommended that where grid connection is addressed separately, the first application (in this case for Section 36 consent) should provide sufficient information to comply with the EIA Directive, including indirect, secondary and cumulative effects. Planning and pollution control systems are separate but complementary (EN-1, 4.10). EN1, 4.10.8-9 advises that if the criteria identified at 4.10.8 (namely that potential release can be adequately regulated, and that cumulative effects would not make the development unacceptable) are satisfied, the IPC should not refuse consent on the basis of pollution impacts, unless it has good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted. The EIA process has demonstrated that, in this case, the criteria can be satisfied.

3.1.27 EN-1, Part 5 sets out generic impacts to be considered, namely air quality and emissions; biodiversity / geological conservation; civil / military aviation / defence interests; coastal change; dust, odour, artificial light, smoke, steam, insect infestation; flood risk; historic environment; landscape / visual impacts; land use including open space, green infrastructure, Green Belt; noise / vibration; socio-economic; traffic / transport impacts; waste management; water quality / resources. These matters have been addressed in the EIA process.

[1] *Landelijke Vereniging tot Behoud van de Waddenzee, Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris Van Landbouw, Natuurbeheer en Visserij [2005] Env. L.R. 14 at Paragraph 45*

3.1.28 *Revised Draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)* Part 1 links this NPS, with EN-1, as providing the primary basis for decisions on applications for NSIPs and advises that applications should be consistent with instructions and guidance in this NPS, EN-1 and any other relevant NPSs. This NPS covers electricity generating infrastructure over 50 MW, namely coal fired, gas fired, integrated coal gasification combined cycle and oil-fired (paragraph 1.7.1). Part 2 notes that the policies set out in this NPS are additional to those on generic impacts in EN-1; it concludes that there is a significant need for new major energy infrastructure and that, in the light of this, the need for the infrastructure covered by this NPS has been demonstrated (paragraph 2.1.2). It refers to the factors influencing site selection by developers as land use, transport infrastructure, water resources and grid connection (EN-2, 2.2). On the matter of Government policy criteria for fossil fuel generating stations, the following must be met before consent can be given, namely CHP, CCR, CCS (for coal fired generating stations), climate change adaptation and consideration of "*good design*" (EN-2, 2.3). Reference is also made to impacts of fossil fuel generating stations in respect of emissions to air, landscape and visual impact, noise / vibration, dust (applicable to coal), residue management (applicable to coal) and water quality / resources (EN-2, 2.4-10). All relevant considerations have been addressed in the EIA process.

3.1.29 *Revised Draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines EN-4* concerns applications for gas supply infrastructure and gas and oil pipelines defined in Section 1.7 and, while the gas pipeline associated with the proposed GEC is not an NSIP, this NPS may be a material consideration in decision making. Part 2 notes that the policies set out in this NPS are additional to those on generic impacts in EN-1; it concludes that there is a significant need for new major energy infrastructure and that, in the light of this, the need for the infrastructure covered by this NPS has been demonstrated (paragraph 2.1.2). It is noted that it is for energy companies to decide what applications to bring forward; the Government does not seek to direct applicants to particular sites for gas pipelines (paragraph 2.1.3). Additional information to that in EN-1, Section 4.8 is that applicants should also take into account climate change adaptation, consideration of good design, hazardous substances and control of major accident hazards (COMAH) (Sections 2.2, 2.3, 2.4, 2.5). With regard to gas pipelines, it is noted that many of the generic impacts set out in EN-1 are relevant, an ES should consider, among others, pipeline safety and pipeline routing, taking into account noise and vibration, landscape and visual impact, water quality and resources, soil and geology (Sections 2.18-2.22).

3.1.30 *Revised Draft National Policy Statement for Electricity Networks Infrastructure (EN-5). EN-5* advises that the network "*will need to be able to support a more complex system of supply and demand than currently and cope with generation occurring in more diverse locations*" (EN-5, 1.1.1). This NPS relates to above ground electricity lines of 132 kV and above and other infrastructure for electricity networks that is associated with an NSIP (EN-5, 1.7). Part 2 is concerned with impacts and other matters that are specific to electricity networks infrastructure; it restates the fact that, in the light of the advice in EN-1, the IPC should act on the basis that the need for infrastructure covered in this NPS has been demonstrated (EN-5, 2.1.2). It is recognised that the general location of electricity network projects is often determined by the location, or anticipated location, of a generating station and the existing network infrastructure, taking electricity to centres of use and that it will not necessarily be the case that the connection between the beginning and end points will be via the most direct route (EN-5, 2.2.2). When defining routes, developers will, among other considerations, have regard to Schedule 9 Electricity Act 1989 concerning the preservation of amenity (EN-5, 2.2.6). This NPS provides advice on climate change adaptation, consideration of good design, impacts of electricity

networks associated with biodiversity and geological conservation, landscape and visual effects, noise / vibration, electric and magnetic fields (EN-5, 2.4-2.10). On the matter of landscape and visual impact, EN-5 advises that guidelines for the routing of new overhead lines were originally set out in the Holford Rules (subsequently updated) which should be borne in mind by the IPC when considering applications for overhead electric lines.

Ports

3.1.31 *The Draft National Policy Statement for Ports (NPSP)* describes the total need for port infrastructure as a consequence of overall demand for port capacity, together with the flexibility which ensures the port capacity is located where it is required and the need to ensure effective competition and resilience in operations (NPSP 1.11.1). Demand forecasts for port capacity in the period up to 2030 over a 2005 base (updated in 2007) indicate substantial growth (NPSP 1.11.3). It is noted that consents granted include London Gateway (NPSP 1.11.6) and it is stated that the Government (previous administration), believed that there is a compelling need for substantial port capacity over the next 20 to 30 years (NPSP 1.11.12).

Regional Policy

3.1.32 On 6.7.10, the Secretary of State for Communities and Local Government purported to revoke all RSs. On 10.11.10, the decision to revoke the RSs was quashed by the High Court in the case of Cala Homes (South) Limited v. Secretary of State for Communities and Local Government and Winchester City Council [2010] EWHC 2866 (Admin). The East of England Plan (EEP) 2008 remains part of the development plan. On 10.10.10, the Secretary of State made a written parliamentary statement in which he drew attention to his letter to local authorities dated 27.5.10, which gave notice of the Government's intention to abolish RSs, and he made available a draft clause in the proposed Localism Bill which will repeal Part 5 of the Local Democracy, Economic Development and Construction Act 2009 and revoke RSs. As a result, the East of England Plan remains part of the development plan until any relevant provision in a Localism Bill is enacted,

Local Policy

Thurrock Borough Local Plan (1997) (TBLP)

3.1.33 There are changes in ES 3.5.24 where the reference to paragraph 5.13.2 should be deleted and at the end of the sentence replaced with "paragraph 5.15.6".

Local Development Framework

3.1.34 ES paragraph 3.5.22 should be deleted and replaced with the text below.

3.1.35 On 27/01/10, Thurrock Council resolved to approve for publication the Council's Core Strategy and Policies for Management of Development, Development Plan Document. It was published for consultation between 26/02/10 and 09/04/10 under Regulation 27 of the Town and Country Planning (Local Development) (England) Regulations 2004 and subsequently submitted to the Secretary of State on 30.04.10. Subsequently, the Council issued for consultation between 12.11.10 and 31.12.10 to the Core Strategy with "*Proposed Focussed Changes*", to which reference is made to this section.

3.1.36 ES paragraph 3.5.23 remains correct except for the fourth sentence which should be amended as follows.

Policy CSSP2 (Sustainable Employment Growth) includes a table of Key Economic Strategic Economic Hubs, Core and Growth Sectors and Flagship Developments.

3.1.37 The following paragraphs should be added after ES paragraph 3.5.23

Policy CSSP3 (Sustainable Infrastructure) is intended to support Thurrock's regeneration agenda by seeking to ensure that essential social and physical infrastructure is put in place; a number of *Key Strategic Infrastructure Projects* are identified; the category of "*Emergency Services and Utilities*" includes reference to a "*new power station at Tilbury*", also referred to in *Policy CSTP13 (Emergency Services and Utilities)* as "*proposed new power station at existing location in Tilbury*".

Policy CSSP4 (Sustainable Green Belt) is designed to help maintain the purpose, function and open character of the Green Belt by maintaining the permanence of its boundaries, resisting development where there would be any danger of coalescence and maximising opportunities for increased public access, leisure and biodiversity.

3.1.38 ES paragraph 3.5.24 first sentence should be amended as follows.

Chapter 5 contains a number of thematic policies including Core Strategic Employment Policies, Core Strategic Transport and Access Policies, Core Strategic Environment Policies, Core Strategic Climate Change Policies, Core Strategic Water, Riverside and Coastal Policies, Core Strategic Minerals and Waste Policies and Core Strategic Infrastructure.

3.1.39 The following text should be added after the first sentence of ES paragraph 3.5.24.

Policy CSTP6 (Strategic Employment Provision) seeks to ensure that sufficient land and floorspace is available to accommodate the projected employment growth and to facilitate the continuing and emerging needs of business. The policy refers to proposed Primary and Secondary Industrial and Commercial areas (identified in the Site Specific Allocations DPD) and confirms that in certain situations the Council will consider economic development that includes non-B Class uses within these areas provided it meets specified criteria. The Council will positively encourage the relocation (within Thurrock) of existing firms wishing to expand and major non-conforming installations where this will improve their economic and environmental sustainability, improve the local environment for local residents and enhance the sustainable development potential of adjoining sites.

Policy CSTP15 (Transport in Greater Thurrock) notes that London Gateway will constitute the main employment growth area in Greater Thurrock. It states generally that it is important that development contributes to improvements in accessibility, especially by sustainable transport.

Policy CSTP16 (National and Regional Transport Networks) similarly recognises London Gateway as a significant growth area and seeks to deliver improvements to national and regional transport networks to support this growth as well as growth outside the Borough.

CSTP17 (Strategic Freight Movement and Access to Ports) expresses the Council's support for the logistics and port sectors and the positive impacts of freight activity, including encouraging more sustainable means of transport, improved Lorry Park at various locations including London Gateway and working with partners to improve the impact of road freight movements.

Policy CSTP18 (Green Infrastructure) is concerned with improving the Borough's green assets and requiring new development to result in a net gain in green infrastructure including incorporating habitat / wildlife creation technologies within new development such as green roofs and walls. Similarly CSTP19 (Biodiversity) encourages development to contribute positively to biodiversity in the borough.

Policy CSTP22 (Thurrock Design) seeks to achieve high quality design to improve the quality of the environment particularly in the Regeneration Areas and Key Strategic

Economic Hubs, including by ensuring that development embraces the use of sustainable, renewable resources of energy and low-emissions technology.

Policy CSTP23 (Thurrock Character and Distinctiveness) similarly seeks to protect, manage and enhance the character of Thurrock to ensure improved quality and strengthened sense of place by identifying areas where character is a key issue, including Regeneration Areas, Key Strategic Economic Hubs and Green Belt, by retaining and enhancing significant natural, historic and built features and strategic and local views which contribute to the character and sense of place of the borough.

Policy CSTP24 (Heritage Assets and the Historic Environment) requires the preservation or enhancement of the historic environment and that all development proposals should accordingly consider and appraise development options and demonstrate that the final proposal is the most appropriate.

3.1.40 The second sentence of ES paragraph 3.5.24 concerning Policy CSTP25 will remain. The following text should be added after CSTP26.

Policy CSTP25 (Addressing Climate Change) evidence base refers to priorities which include reducing CO_2 and N_2O emissions from the industrial / commercial sector, particularly from gas / electricity consumption (paragraph 5.157); the policy requires development to address climate change adaption measures, including reduction of emissions, renewable carbon technologies, passive design, recycling, waste minimisation and mitigation measures to support reductions in CO_2 emissions across all sectors.

Policy CSTP26 (Renewable or Low Carbon Energy Generation) adds to the explanation of the policy in ES 3.5.24 by stating that the Council will promote the delivery of district energy networks in priority locations, in order to increase the proportion of energy delivered from renewable and low carbon sources.

Policy CSTP27 (Management and Reduction of Flood Risk) commits to using land use planning to implement and support flood risk management and working alongside the Environment Agency, including in ensuring that where possible, new development contain spaces for water including naturalisation and environmental enhancement.

Policy CSTP28 (River Thames) recognises and seeks to promote the important economic and commercial functions of the river as well as ensuring that development maintains or enhances views particularly of key features including heritage and landscapes.

Policy CSTP29 (Waste Strategy) aims to drive waste management up the waste hierarchy by reducing waste arisings, increasing recycling and recovery of waste.

3.1.41 The following text should be added after the first sentence of ES paragraph 3.5.25.

Policy PMD1 (Minimising Pollution and Impacts on Amenity) restricts development where it would cause unacceptable effects on the amenity of the area, of neighbouring occupants or of future occupiers of the site with particular consideration to the location of sensitive land uses such as housing, school, health facilities and biodiversity sites. Where necessary, the Council may require applications to address matters such as air pollution, noise pollution, contaminated land, odour, light pollution, water pollution, visual intrusion.

Policy PMD2 (Design and Layout) is concerned with ensuring the design of new development responds sensitively to the site and its surroundings and where appropriate to mitigate against any negative impacts.

Policy PMD3 (Tall Buildings) includes within the definition of tall buildings, those more than six storeys however, it excludes “tall structures that cannot be occupied (such as silos, telecommunication masts, wind turbines and chimneys)”.

Policy PMD4 (Historic Environment) seeks to ensure that the fabric and setting of heritage assets, including listed buildings, conservation areas, scheduled ancient monuments and other important archaeological sites, and historic landscape features are appropriately protected and enhanced.

Policy PMD6 (Development in the Green Belt) is concerned with maintaining, protecting and enhancing the open character of the Green Belt in accordance with the provisions of PPG 2.

Policy PMD7 (Biodiversity and Development) requires no net loss in biodiversity as a result of new development and specifies that designated biodiversity sites should not be lost or partly lost except in certain circumstances; compensation measures will be considered as an alternative mitigation, development should incorporate biodiversity features such as green roofs, brown roofs and the creation of green corridors for wildlife; biodiversity management plans may be required.

Policy PMD8 (Parking Standards) applies maximum standards for non-residential car parking in seeking to ensure a level of good quality and safe parking that is sufficient for the accessibility needs of development taking into account the levels of accessibility by sustainable transport modes, the need to promote modal shift and the need to provide adequate access for service and public transport vehicles.

Policy PMD9 (Road Network Hierarchy) sets out the conditions under which the Council will permit the development of new accesses or increased use of existing accesses; it also seeks to protect the function of level 1 routes, comprising strategic non-trunk roads and rural / urban distributors and level 2 routes comprising rural roads.

PMD10 (Transport Assessments and Travel Plans) requires applications for planning permission to be accompanied with Transport Assessments, Transport Statements, and Travel Plans in accordance with the Department for Transport guidance.

Policy PMD11 (Freight Movement) seeks to encourage sustainable freight movement and the minimisation of adverse impacts of road freight movements.

Policy PMD12 (Sustainable Buildings) is concerned with ensuring new developments are sustainable by utilising sustainable construction techniques to minimise water and energy consumption, maximise water efficiency / water recycling and the use of recycled materials and minimise waste / maximize recycling during and after construction.

3.1.42 The last sentence of ES paragraph 3.5.25 shall be replaced and supplemented by the following text.

PMD13 (Decentralised and Low-Carbon Energy Generation) refers to priority locations in which encouragement is given to the utilisation of district energy networks where renewable or low carbon energy can be delivered.

Policy PMD14 (Carbon Neutral Development) requires developers to demonstrate that all viable energy efficiency measures and renewable or low-carbon technology opportunities have been utilised to minimise emissions.

PMD15 (Flood Risk Assessment) requires the management of flood risk to be considered at all stages of the planning process taking into account PPS 25 and incorporating SUDS techniques as part of development.

Policy PMD16 (Developer Contributions) advises that, where needs would arise as a result of development; the Council will seek to secure planning obligations under Section 106 of the Town and Country Planning Act 1990 and in accordance with Circular 5/05 and other relevant guidance.

4 DESCRIPTION OF GEC

4.1 Thurrock Council (General – CEMP) Consultation Response

Update to ES Section 4.3 – Construction Environmental Management Plan

4.1.1 The Thurrock Council (General – CEMP) consultation response stated that:

"*The Environmental Statement Volume 1 refers to a Construction Environmental Management Plan. [Thurrock Council] would expect this plan to be submitted and to be approved prior to construction works being commenced*".

InterGen Response:

4.1.2 The CEMP will be submitted for approval to the LPA prior to construction works being commenced.

5 DESCRIPTION OF THE GEC SITE AND ITS SURROUNDINGS

5.1 Other Developments with Potential Cumulative and Indirect Impacts [Update to ES Section 5.6]

Tilbury C CCGT

5.1.1 In addition to considering the potential impacts associated with GEC, the EIA considered the potential for cumulative impacts with other developments in the vicinity of the GEC site.

5.1.2 The other developments in the vicinity of the GEC site which were identified as potentially generating cumulative impacts in the original ES were the:

- CECL Power Station;
- Coryton Oil Refinery; and
- LG Development.

5.1.3 Following the submission of the Section 36 Consent application for GEC, further information on another development in the vicinity GEC site has been released. This development is Tilbury C CCGT proposed by RWE npower. Tilbury C is located approximately 10 km south west of the GEC site. The further information is contained within their Scoping Study which was released in July 2010[2]. [Direct distance is about 10km]

5.1.4 In brief, RWE npower is proposing to develop a new combined cycle gas turbine power station on the Tilbury Power Station site in Thurrock to be known as Tilbury C. The proposal to build a gas fired power station replaces the previous proposal of March 2007 by RWE npower to build a super-critical coal fired power station at the site.

5.1.5 Tilbury C will have a main plant capacity of approximately 2000 MW. There may also be up to 400 MW of open cycle gas turbine (OCGT) capability. Tilbury C (CCGT) is expected to achieve an efficiency of up to 59 %, in line with other new CCGT plants that are being developed with the higher efficiency the result of using latest proven technology coupled with direct sea cooling. A figure of 55 % efficiency has been used for the proposed GEC calculations to be conservative, although a figure of 58 to 59% may well be achievable at the time of contracting for equipment. The OCGT plant will have a lower efficiency. Tilbury C will be built to Best Available Techniques (BAT) and will be designed such that it is Carbon Capture Ready (CCR), such that it is configured to allow for the installation of Carbon Capture and Storage (CCS)

[2] *Environmental Impact Assessment Scoping Report – Proposed Tilbury C Combined Cycle Gas Turbine Power Station (RWE npower, July 2010).*
http://infrastructure.independent.gov.uk/wp-content/uploads/2010/07/Tilbury-Scoping-Report.pdf

technology in the future when this becomes technically available and commercially feasible.

5.1.6 The proposal also includes:

- A new gas pipeline spur (approximately 3 km long) to connect Tilbury C to the existing National Grid Gas Pipeline located to the east of the Tilbury Power Station site; and,
- The removal of the overhead lines which connect the EDF Networks substation in the north west of the Tilbury Power Station site to the existing Tilbury B Power Station and the installation of underground cables to replace them.

5.1.7 It is noted that an Environmental Impact Assessment (EIA) scoping request has recently been submitted to the Local Planning Authority regarding a proposed power station development in Tilbury (Tilbury C), however these proposals are at an early stage, are not yet committed and an EIA is yet to be developed. As such, should cumulative assessment be considered necessary for traffic impact, it is considered appropriate for this to be provided within the Environmental Statement (ES) to be developed by RWE in support of its Tilbury C proposal. Tilbury C is therefore not considered further herein. GECL / InterGen has offered to assist the relevant Highways Authorities, the Planning Authority and RWE with such assessment, for example through the provision of appropriate data and attending meetings.

5.1.8 For other impacts, the localised effect from GEC and the separation distance (10 km) is considered to be too great to have any cumulative impacts, and therefore the development of Tilbury C is not considered further. As such, whilst the proposed development of Tilbury C is noted, it is not considered within the 'Other Developments with Potential Cumulative and Indirect Impacts Section.

5.2 DP World – London Gateway Consultation Response

Clarification to ES Section 5.2.13 and 5.4.1

5.2.1 DP World – London Gateway provide the following clarification:

"*Paragraphs 5.2.13 and 5.4.1 of the Environmental Statement submitted in support of the application (the GEC ES) describe an area of "undeveloped land known as the REL and Tongue Land". We wish to highlight that the Tongue Land was previously developed as part of the Shell Haven Refinery and as such is currently considered to be Brownfield Land*".

InterGen Response:

5.2.2 Clarification accepted. This does not affect the conclusions of the ES.

6 ALTERNATIVES

6.1 Alternative Infrastructure Connections [Update to ES Section 6.6]

Gas Connection

6.1.1 ES Paragraphs 6.6.3 to 6.6.6 described the potential gas connection options which were shown in Figure 6.1 of Volume 3 of the ES.

6.1.2 This gas pipeline and associated AGI will be subject to a separate Consent application, most likely planning permission under the Town and Country Planning Act 1990. The application for planning permission will include details of the development proposals for the gas pipeline and associated AGI, and will be accompanied by an ES conforming to the requirements of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.

6.1.3 A Scoping Study which describes the key environmental issues that will require evaluation as part of the EIA process for the gas pipeline and associated AGI is being submitted to TTGDC (November 2010). The Scoping Study also sets out a number of alternative gas pipeline route options.

Potential Gas Pipeline Route Options

6.1.4 An initial technical feasibility study assessed a number of options for the route of the gas pipeline and the location of the associated AGI. These options are described below and are shown in Figure 6.1

Route 1

6.1.5 This route is approximately 10.5 km long. The route starts close to the existing National Grid Horndon on the Hill AGI. The proposed associated Minimum Offtake Connection (MOC) AGI would be constructed in close proximity to the Horndon on the Hill AGI, as the No. 5 Feeder runs through the site.

6.1.6 From the AGI, the route heads east and crosses North Hill (Road), before passing between Wrens Park Farm and Arden Hall. The route then carries on east for approximately 1 km before taking a north easterly turn to parallel the A13 dual carriage way for approximately 1 km. The pipeline route then crosses the A13 and the passenger railway line that runs from Shoeburyness to London Fenchurch Street to the south of the A13, and parallels the railway for about 1km, on the southern side of the tracks. The pipeline route then diverts east to pass through a row of properties along High Road north of Fobbing, before finally diverting south towards the proposed GEC site location.

Route 2

6.1.7 This route is approximately 9.7 km long. This route follows a similar path to Route 1 with one major difference.

6.1.8 The same location is proposed for the AGI as for Route 1; the route crosses the A13 dual carriage way and the passenger railway line that runs from Shoeburyness to London Fenchurch Street at the same locations. The main difference is that Route 2 does not pass through the row of properties along High Road to the north of Fobbing; instead Route 2 diverts south before reaching the row of properties along High Road.

6.1.9 The route follows the railway for approximately 1 km after the A13 and railway crossing before diverting south for about 2 km as it passes through the undeveloped area between Corringham and Fobbing. The pipeline route then crosses Lion Hill (Road) and carries on in a south easterly direction for approximately 1 km, before crossing The Manorway. Once The Manorway has been crossed, the pipeline route diverts east for approximately 1 km before heading south to the proposed GEC site location.

Route 3

6.1.10 This route is approximately 8.5 km long. Again, the proposed location for the AGI is close to the existing National Grid Horndon on the Hill AGI.

6.1.11 From the AGI, the route heads approximately 1 km east before crossing North Hill. Shortly after this road crossing, the route takes a south easterly diversion and runs parallels to North Hill (Road) for approximately 1 km, as it passes between Arden Hall and the Arden Hall Cottages. The route then crosses the A13 dual carriage way and two slip roads. After the A13 crossing, the proposed route crosses the passenger railway line that runs from Shoeburyness to London Fenchurch Street and then closely parallels The Manorway through Stanford-le-Hope. The route crosses The Manorway and carries on east along the road. The High Road is then crossed, north of Oak Farm, before the route crosses some overhead power cables. The route turns

north east and crosses to the north of The Manorway, where it runs parallel to The Manorway for about 1 km, before crossing The Manorway once again. The route then follows The Manorway east for about 1 km before finally diverting south to the proposed GEC site location.

Route 4

6.1.12 Route 4 is the shortest of the options at approximately 6.3 km long. The proposed location for the AGI is next to the existing AGI, which serves CECL Power Station, situated west of Mucking and to the south of Stanford-le-Hope.

6.1.13 From the AGI, the pipeline turns south east and crosses below two parallel overhead power cables. The route then turns east to cross Walton's Hall Road south of Bluehouse Farm before crossing the passenger railway line that runs from Shoeburyness to London Fenchurch Street. The route carries on east past Mucking, before diverting approximately 1 km north towards Stanhope Industrial Park. The route continues east towards Stanford-le-Hope Marshes before turning north west to cross the railway freight line to the Coryton Oil Refinery approximately 10 m west of the marshes. Rainbow Lane (Track) is then crossed, and the route continues north, passing the south east of Great Garlands Farm before crossing The Manorway near Old Hall Farm. This proposed route corridor then continues in a generally eastern direction, before diverting south to cross The Manorway to the GEC site. An earlier variant of this route through the LG Development was considered not practicable as it would have pre-determined future layout and unnecessarily precluded development of some areas.

Route 5 / Along the Existing Pipeline Route

6.1.14 This route is approximately 7 km long. By going parallel to the existing CECL Power Station gas pipeline route, the proposed AGI could be located adjacent to the existing AGI, situated west of Mucking and to the south of Stanford-le-Hope.

6.1.15 From the proposed AGI, the proposed route corridor (likely to be mainly to the north of the existing gas pipeline) would head east to cross Walton Hall Road before turning north to cross Mucking Wharf Road. The proposed route corridor would then turn east to cross the London to Southend Railway.

6.1.16 After crossing the passenger railway line (Shoeburyness to London Fenchurch Street), the proposed route corridor heads north east, following the route of the existing over ground electric lines. The proposed route corridor would continue to the south east of the sewage works and towards the North Shell Angling Lakes before crossing the railway freight line to the Coryton Oil Refinery and Wharf Road. It is highly probably that a Horizontal Directional Drill (HDD) section would be required for the gas pipeline from the sewage works to the Wharf Road crossing, underneath the northern most Shell Angling Lake.

6.1.17 After this section, the proposed route corridor would closely follow the existing gas pipeline to cross Rainbow Lane and go past the south east of Great Garlands Farm, before crossing The Manorway. This proposed route corridor then continues in a generally eastern direction, before diverting south to cross The Manorway to the GEC site.

<u>Selected Gas Pipeline Route Option</u>

6.1.18 Based on an evaluation of the route options (including consideration of technical, commercial, planning and environmental factors) Route 5 (along the existing pipeline route) was selected as the preferred route for the gas pipeline, and therefore the proposed AGI location would be adjacent to the existing AGI situated west of Mucking and to the south of Stanford-le-Hope.

6.1.19 There are a number of reasons for selecting Route 5 as the preferred option, including:

- Route 5 has a preferable connection point to the existing NTaS Number 5 Feeder Pipeline to the west of Mucking and to the south of Stanford-le-Hope, as the alternative proposed Horndon on the Hill connection point (associated with Routes 1, 2 and 3) is already congested;
- The route is closest in routing to the existing CECL Power Station pipeline route which is a proven route for a gas pipeline and therefore does not cause the proliferation of gas pipelines in the area;
- Route 5 follows the easements of the existing CECL Power Station pipeline route and will therefore require minimal expansion / disruption to land owners compared to a completely new route;
- Route 5 follows the route of the recently approved Calor Gas Pipeline, and therefore has been established as being acceptable from a current planning perspective;
- The route is considered to have a lower potential for significant environmental impacts when compared to the other route options; and
- Route 5 retains a degree of success as a pipeline route (being associated with the route of the existing CECL Power Station pipeline) and therefore benefits from historic knowledge of the route coupled with operational familiarity provided by the CECL Power Station operations and maintenance team.

High Voltage (HV) Electricity Connection

6.1.20 ES Paragraphs 6.6.7 to 6.6.8 described the potential HV electricity connection options which are shown in Figure 6.2 of Volume 3 of the ES.

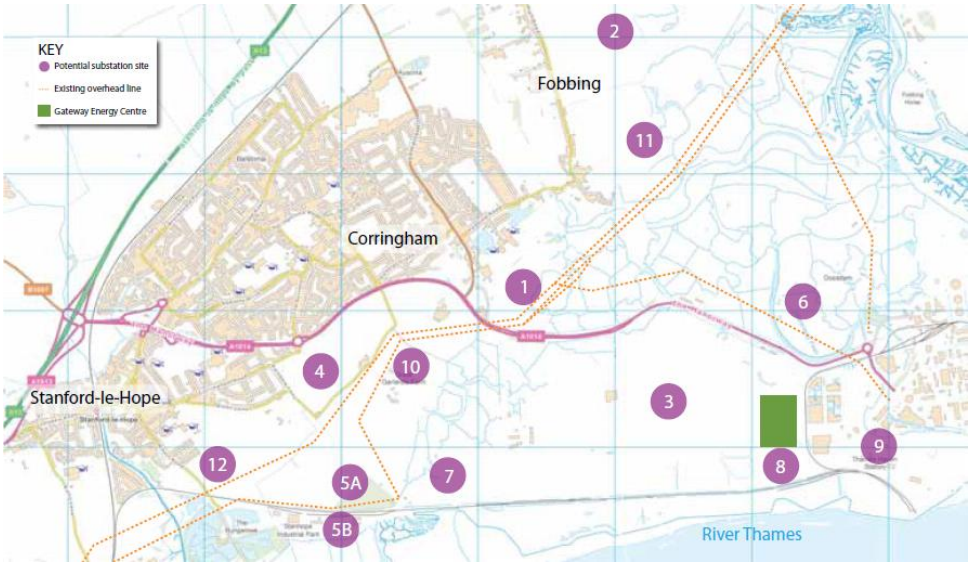
6.1.21 The HV electrical connection (to be pursued by GECL) and associated substation and its connection to the existing Rayleigh – Tilbury 400 kV overhead line (to be pursued by National Grid) will be subject to separate Consent applications. National Grid's substation and connection to the existing Rayleigh – Tilbury 400 kV overhead line application will be to the Infrastructure Planning Commission (IPC) (or to a Major Infrastructure Planning Unit which will replace the IPC) for Development Consent Orders (DCO) under the Planning Act 2008. GECL's HV electrical connection application will be to the IPC / Major Infrastructure Planning Unit and / or TBC / TTGDC under the Town and Country Planning Act 1990. These applications will include details of the development proposals, and will be accompanied by ESs conforming to the requirements of the Infrastructure Planning (Environmental Impact Assessment) (England and Wales) Regulations 2009.

6.1.22 Following submission of the GEC ES in February 2010, subsequent feasibility work on substation options by National Grid has resulted in the identification of 13 potential substation locations. These are shown in Insert 6.1. Additionally, a number of other options (such as using the existing CECL Power Station overhead line) have been considered. Following further feasibility work, two options were discarded, one option where the land has planning permission for development (thus affecting two sites), and secondly, the use of the existing CECL Power Station overhead line has issues relating to compatibility with the regulations governing National Grid's existing transmission network.

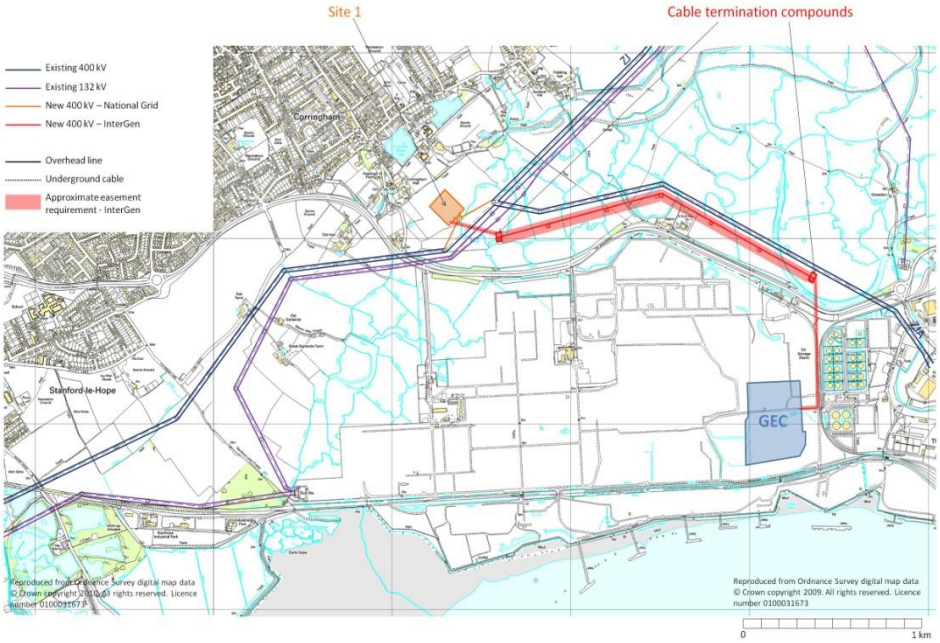
6.1.23 Whilst it should be noted that the selection of a substation location and its connection to the existing Rayleigh – Tilbury 400 kV overhead line (by National Grid) and the HV electricity connection between the substation and GEC is still subject to feasibility work (including consideration of technical, commercial, planning and environmental

factors) and discussion with key stakeholders. National Grid has initially identified 4 preferred substation locations (sites 1, 5A, 5B and 10). These are described here and shown in Inserts 6.3 to 6.6.

INSERT 6.1 – NATIONAL GRID SUBSTATION LOCATIONS



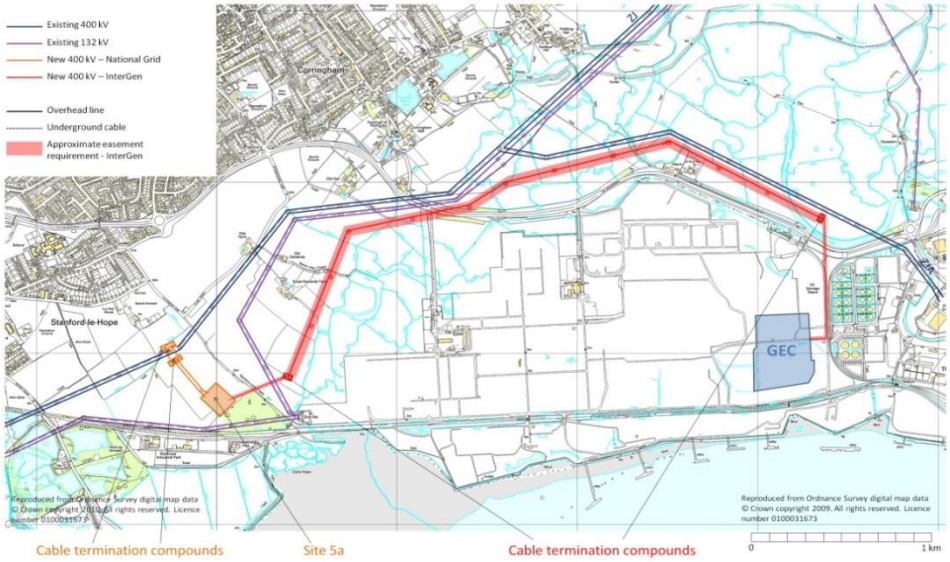
INSERT 6.2 – NATIONAL GRID SUBSTATION SITE 1 AND INDICATIVE ROUTE



Substation Site 1 is located to the south of Fobbing and the east of Corringham, It is currently a greenfield site within the Green Belt, and is approximately 5m AOD.

From the easement to the east of the GEC site, the HV electrical connection parallels the existing CECL Power Station line to the south, and runs to the west, potentially crossing though the Northern Triangle (mitigation land associated with the LG Port development) and Corringham Marshes Site of Importance for Nature Conservation (SINC).

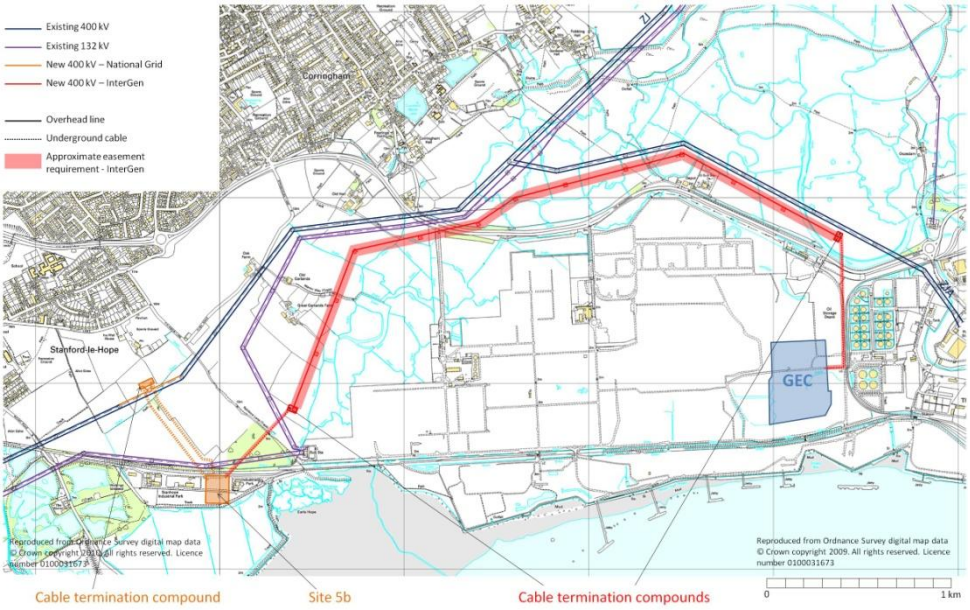
INSERT 6.3 – NATIONAL GRID SUBSTATION SITE 5A AND INDICATIVE ROUTE



Substation Site 5A is located east of Stanford-le-Hope between the existing 400 kV Tilbury to Rayleigh overhead line and 132 kV overhead line. It is currently a greenfield site within the Green Belt, and is approximately 5 to 10 m AOD.

From the easement to the east of the GEC site, the HV electrical connection parallels the existing CECL Power Station line to the south, initially running to the west, before turning in a southerly direction to end at substation location 5A. This route potentially crosses though the Northern Triangle (mitigation land associated with the LG Port development) and Corringham Marshes SINC.

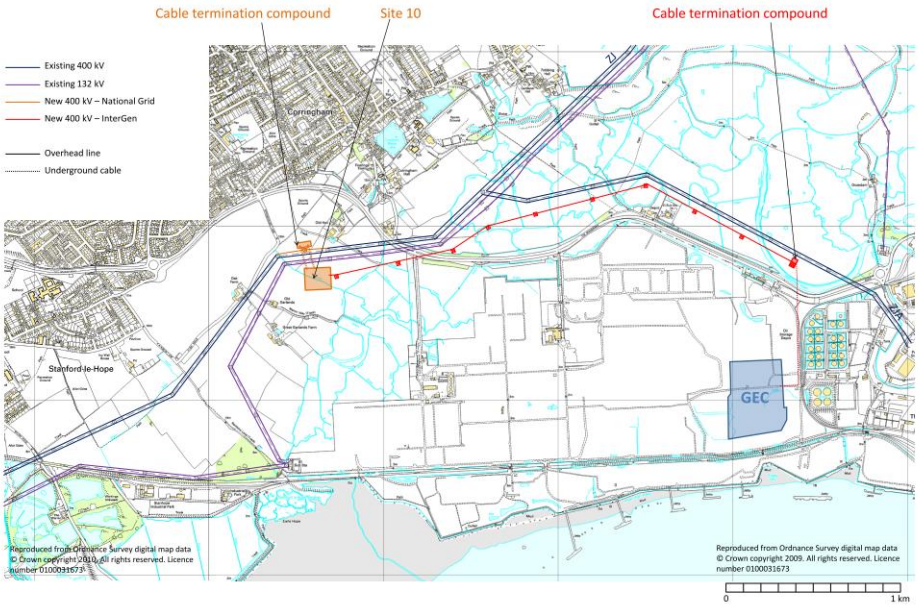
INSERT 6.4 – NATIONAL GRID SUBSTATION SITE 5B AND INDICATIVE ROUTE



Substation Site 5B is located east of Stanford-le-Hope, south of the London to Southend Railway line. The site is currently brownfield land , within an area of employment development, and is approximately 5 to 10 m AOD. .

From the easement to the east of the GEC site, the HV electrical connection parallels the existing CECL Power Station line to the south, initially runs to the west, before turning in a south direction to end at substation location 5B. This route potentially crosses though the Northern Triangle (mitigation land associated with the LG Port development) and Corringham Marshes SINC.

INSERT 6.5 – NATIONAL GRID SUBSTATION SITE 10 AND INDICATIVE ROUTE



Substation Site 10 is located south of Corringham. It is currently a greenfield site within the Green Belt.

From the easement to the east of the GEC site, the HV electrical connection parallels the existing CECL Power Station line to the south initially to the west to end at substation location 10. This route potentially crosses though the Northern Triangle (mitigation land associated with the LG Port development) and Corringham Marshes SINC.

Discussion of HV Electricity Connection Routing Options and Assessment of Potential Impacts

6.1.24 The final selection of a substation location and its subsequent connection to the existing Tilbury – Rayleigh 400kV overhead line, to be submitted to the IPC, will be matter for National Grid, taking into account feasibility work and consultation with key stakeholders, including members of the public. The final route and form of connection from the substation to GEC (that is whether it is to be via overhead lines or underground cables, or a combination of both) has not been determined at this time; this will be matter for InterGen, taking into account feasibility work and consultation with key stakeholders, including members of the public once the preferred substation location has been finalised by National Grid.

6.1.25 Revised Draft Overarching National Policy Statement for Energy (EN-1), in conjunction with the Revised Draft National Policy Statement for Electricity Networks Infrastructure (EN-5) will be relevant to the consideration of electricity infrastructure. EN-1 Part 4 sets out the general principals to be applied in the assessment of Development Consent Applications for energy infrastructure, while Part 5 identifies the generic impacts to be considered. EN-5, together with EN-1, provides the primary basis for decisions on applications for NSIPs. EN-5 Part 2 sets out policy on the assessment of impacts on development including above ground electricity lines of 132kV, and above, and other associated electrical infrastructure. It notes that National Grid is required to bring forward the most efficient solution in terms of network design, taking into account current and reasonably anticipated future generation demand and has a statutory duty to provide a connection wherever one is required. Attention is drawn to climate change adaptation, consideration of good design, impacts of electricity networks associated with biodiversity and geological conservation, landscape and visual and noise and vibration. It is advised that in considering whether all or part of the proposed electricity lines should be undergrounded, to obtain benefits in reduction in landscape / visual impacts, these will need to be weighed against other impacts (economic, environmental, social) and technical challenges. It is stated that applications for overhead line proposals should only be refused if the benefits of undergrounding outweigh any extra economic, social and environmental impacts and the technical difficulties are surmountable.

7 EIA METHODOLOGY AND ES CONTENT

No changes / clarification / supplementary information required.

8 STAKEHOLDER CONSULTATIONS AND ADDITIONAL STUDIES

8.1 Section 36 Consultation Responses

8.1.1 The Section 36 written consultation responses are provided in Appendix A. Table 8.1 provides a summary of the Section 36 written consultation responses, and the subsequent actions taken. Links to where the clarification / supplementary information is presented are also provided.

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
British Pipeline Agency	Infrastructure Connections	BPA requested the right of consultation within the gas pipeline Area of Interest / easement.	Consultation will take place in due course.
Castle Point Borough Council (CPBC)	Development of GEC	After consideration of the Section 36 Consent application, CPBC has no comments to make.	None
Civil Aviation Authority	Development of GEC	As the maximum height of any development associated with GEC would be two 75 m high chimney stacks, can advise that various proposed structures would not formally constitute an aviation en-route obstruction. There may be a requirement for relevant planning authorities to check any safeguarding maps which are lodged with them.	Request sent to relevant planning authorities to check safeguarding maps which are lodged with them.
Environment Agency	Flood Risk	The submitted Flood Risk Assessment does not meet with the requirements of PPS 25, and therefore does not provide a suitable basis for assessment. Clarification / further information required.	Further information provided in ***Supplementary Flood Risk Assessment***
	Ecology – Sustainability / Sustainable Design	Environment Agency would aim to see some sustainable design features incorporated into the design of GEC.	Further information provided in ***Appendix B – Framework Sustainability Plan***

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
	Ecology – Air Emissions	Ecological concerns due to the impacts of NO_x emissions on Thundersley Great Common SSSI. Clarification / further information required.	Clarification provided in ***Section 12.3 – Environment Agency Consultation Response***
	Contaminated Land	To ensure the application site is subject to further investigation and remediation as necessary, particularly with respect to possible presence of free phase hydrocarbons and potential threat to controlled water, Environment Agency request a number of conditions are attached to any Consent.	Mitigation measures are identified in ES 14.9. Conditions will be reviewed and agreed at a later date.
	Pollution Control	Environment Agency has no objections to GEC on pollution prevention grounds. However request a number of conditions are attached to any Consent.	Mitigation measures are identified in the ES. Conditions will be reviewed and agreed at a later date.
	Waste Management	Waste arising from GEC must be re-used, re-cycled or otherwise disposed of in accordance with waste management legislation, and in particular the Duty of Care. Clarification / further information required on the Site Waste Management Plan (SWMP).	Further Information provided in ***Section 14.2 – Environment Agency Consultation Response***
	Environmental Permitting	GEC will require an Environmental Permit to operate.	An Environmental Permit application will subsequently be made most likely during 2011. No information is required at this stage.

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
East of England Local Government Association (EELGA)	Development of GEC	Provided the proposals satisfy the environmental requirements (which depend on the opinions of other organisations) and do not impinge on the development of Thurrock as a leading logistics centre, GEC is consistent with the East of England Plan. Clarification / further information required on land use.	Further information provided in ***Section 3.1 – Land Use and Planning Policy Context***
	Combined Heat and Power	Further detail on and commitment to the sustainable use of waste heat is necessary to justify this choice of location over others that may have greater potential for CHP. Clarification / further information required.	Further information provided in ***Supplementary CHP Assessment***
	Infrastructure Connections – CCR / CCS	The environmental assessments should include impacts that may arise through carbon capture. Clarification / further information required.	Further information provided in ***Section 8.3 – East of England Local Government Association Consultation Response*** ***Section 19 – Indirect / Secondary and Cumulative Impacts***

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
Essex County Council[3] (Environment and Sustainability and Highways)	Archaeology	There is some additional archaeological work which has been undertaken by Oxford Archaeology Unit for DP World / LG Development. In the first instance, this additional archaeological information needs to be taken into account. Clarification / further information required.	Further information provided in ***Section 16.1 – Essex County Council Consultation Response – Additional Cultural Heritage Information***
Essex County Fire and Rescue Service	Development of GEC - Access	It is not possible to ascertain at this stage if access for Fire Service purposes is satisfactory.	More detailed observations on access and facilities for the Fire Service will be considered at Building Regulation consultation stage should approval be given.
	Development of GEC - Water	Additional hydrants will be required for the proposals at positions to be agreed.	Further discussion between the Water Technical Officer and TTGDC regarding mains sizing and location required at a later date.
Essex Police	Development of GEC	No objections were raised. Invitation to consider the use of the Architectural Liaison Service in respect of future design and development proposals.	Consider the use of Architectural Liaison Service at detailed design stage.
Essex and Suffolk Water	Water	As potable (drinking) water provider, wish to make clear that have sufficient water resources to fully service the development without any delaying or phasing of the development.	None

[3] *It should be noted that Essex County Council (Environment and Sustainability and Highways) are representing Thurrock Borough Council on matters related to Archaeology*

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
GO-East Government Office for the East of England	Development of GEC	No comments to make.	None
Health and Safety Executive Hazardous Installations Directorate	Development of GEC	The proposed development has been considered using PADHI+, the HSE's planning advice software tool. The HSE does not advise, on safety grounds, against the granting of planning permission in this case.	None
Health and Safety Executive	Development of GEC	GEC is within the consultation distances of Shell Oil UK Ltd and Petroplus. However, the HSE would not wish to advise against the siting of the proposed development on the grounds of safety.	None
Highways Agency	Transport and Infrastructure	Highways Agency raises various questions / queries on ES Section 15 – Transport and Infrastructure. Clarification / Further Information Required.	Further Information provided in: ***Section 15.2 – Highways Agency Consultation Response***

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
London Gateway / DP World	Development of GEC	DP World – London Gateway wish to register strong support for the GEC proposals. However, wish to offer clarification on a number of points in the ES. Clarification / Further Information Required.	Clarifications / Further Information provided in: ***Section 5.2 – DP World – London Gateway Consultation Response*** ***Section 12.2 – DP World – London Gateway Consultation Response*** ***Supplementary Flood Risk Assessment***
Medway Council	Development of GEC	Medway Council raises no objections to GEC. Note that responses from RSPB, Natural England and the Environment Agency should be taken into consideration.	Refer to the Actions / Links from the Natural England and Environment Agency consultation responses.
Natural England	Ecology – Air Emissions	Clarification / Further Information required on Table 12.7, Paragraph 12.6.28, Table 12.8 and Paragraph 12.7.12.	Clarification / Further Information provided in: ***Section 12.1 – Natural England Consultation Response***

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
	Ecology – Protected Species	Natural England is aware that there are not expected to be any populations of protected species within the application site at the time of construction, due to site clearance and translocation strategies already licensed and being undertaken. However, Natural England is not convinced that there will be (Paragraph 12.5.73) "*few or no invertebrates on site*" here following the development of the wider LG Development site under its EMMP. Natural England therefore suggests that a power station development offers considerable scope for design features which could substantially retain or improve the potential for significant invertebrate interest.	Further Information provided in: ***Appendix B – Framework Sustainability Plan***
Ministry of Defence (MOD) Defence Estates Safeguarding	Development of GEC	The MOD has no safeguarding objections to this proposal.	None
Network Rail	Development of GEC	No comments to make.	None
Peter Clark	Traffic and Infrastructure	In terms of the LG Development, opposed to a single access road, and is concerned regarding the additional traffic feeding to GEC.	Further Information provided in: ***Section 15.1 – Thurrock Council (Highways) Consultation Response / Section 15.2 – Highways Agency Consultation Response***

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
	Infrastructure Connections	Express concerns about the impacts of the HV electrical connection required for GEC.	Further Information provided in: ***Section 19 – Indirect / Secondary and Cumulative Impacts***
Petroplus	Development of GEC	Petroplus support the proposals for GEC and consider the site location suitable.	None
Port of London Authority (PLA)	Infrastructure Connections – CCR / CCS	The PLA has no objection to GEC. PLA is currently aware of a number of applications where provision is being made for CCS. Consideration of a main pipeline for CCS purposes is advised.	Further Information provided in: ***Section 8.2 – PLA Consultation Response***
SPEAC	Infrastructure Connections	Express concerns about the impacts of the HV electrical connection required for GEC.	Further Information provided in: ***Section 19 – Indirect / Secondary and Cumulative Impacts***
Thames Water Utilities	Development of GEC	The application is outside the Thames Water area. No further comments to make.	None
Thurrock Council (Highways)	Transport and Infrastructure	Thurrock Council (Highways) raises various questions / queries on ES Section 15 – Transport and Infrastructure. Clarification / Further Information Required.	Further Information provided in: ***Section 15.1 – Thurrock Council (Highways) Consultation Response***
Thurrock Council (Air Quality / Noise and Vibration / Contaminated Land)	Air Quality	Based on the findings of the ES, Thurrock Council has no objection to the proposed development on air quality grounds.	None

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
	Noise and Vibration	It is not possible to provide detailed comments until detailed design is complete. However, subject to the implementation of the mitigation measures as submitted and any agreed noise levels being achieved, there should be no significant impact on existing receptors.	Implementation of the mitigation measures as submitted and achievement of any agreed noise levels.
	Contaminated Land	Express concerns concerning ES Section 14. Clarification / Further Information Required.	Further Information provided in: ***Section 14.1 – Thurrock Council (Contaminated Land) Consultation Response***
	General – Construction Environmental Management Plan (CEMP)	The CEMP should be submitted and approved prior to construction works being commenced.	Further Information provided in: ***Section 4.1 – Thurrock Council (General – CEMP) Consultation Response***
Thurrock Council (Landscape and Ecology)	Landscape and Visual Impact	Thurrock Council (Landscape) believe that the scale and scope of the Landscape and Visual Impact assessment is preliminary, and that the range of receptors does not consider the potential scale and types of receptors likely to experience effects. Clarification / Further Information Required.	Further Information provided in: ***Section 11.1 – Thurrock Council (Landscape) Consultation Response***
	Infrastructure Connections	Thurrock Council (Landscape) and Thurrock Council (Ecology) express concern about the impacts of the infrastructure connections required for GEC.	Further Information provided in: ***Section 19 – Indirect / Secondary and Cumulative Impacts***

Consultee	***Heading***	***Summary of Comments***	***Action / Link***
Thurrock Thames Gateway Development Corporation (Urban Design)	Design and Access Statement	The submitted DAS is unnecessarily technical, containing frequent acronyms, which make the text difficult to interpret. The DAS could be more concise, and make better use of diagrams / graphics. As submitted the DAS does not explain and justify the design approach as clearly as it could have done. Clarification / Further Information Required.	Further Information provided in: ***Revised Design and Access Statement***
William Dawson	Infrastructure Connections	Express concerns about the impacts of the infrastructure connections required for GEC.	Further Information provided in: ***Section 19 – Indirect / Secondary and Cumulative Impacts***

8.2 Port of London Authority (PLA) Consultation Response

ES Section 8.4 – CCR Feasibility Study

8.2.1 The PLA consultation response stated that:

"*The PLA is aware of more than one proposed development where provision is being made for carbon capture and storage and it is likely that more schemes will be proposed in the future. At the moment, each scheme seems to be progressed in isolation … clearly a number of pipelines under the Thames would have cumulative impacts … PLA would therefore wish to see an investigation into whether it would be possible for energy companies to work together to provide one main pipeline which they could then feed into from their individual development sites*".

InterGen Response:

8.2.2 The above point is also raised in the DECC November 2009 CCR Guidance4 which states that: "*Initially at least … transport plans are likely to be point to point routes for an individual combustion site application. However, it is clear from work already underway jointly between public and private sectors that in time it may be more cost effective for there to be a network of CO_2 pipelines on shore to which an individual combustion site could be linked up*".

8.2.3 However, the DECC November 2009 CCR Guidance also states that: "*applicants may not, when applying for an initial Section 36 Consent, assume, at the CCR stage, that they will be able to outsource such onshore transport arrangements at the time of future CCS deployment*".

8.2.4 In accordance with the DECC November 2009 CCR Guidance, the CCR Feasibility Study prepared for GEC has not considered the option of shared CO_2 transport arrangements at this stage. If CCS proves to be technically and economically feasible, a separate Consent application for the carbon capture plant will be made. At that time, a full investigation and assessment of transport and storage options will be undertaken, including the option of using shared facilities.

8.3 East of England Local Government Association (EELGA) Consultation Response

ES Section 8.4 – CCR Feasibility Study

8.3.1 The EELGA consultation response stated that:

"*The application sets aside some 4.7 ha of land within the site for carbon capture equipment. The expectation is that carbon dioxide would be transferred by off shore pipeline to former gas fields (Hewet and Leman) in the North Sea. The environmental assessments should include impacts that arise through carbon capture including potential routing to pipelines even if these are not known at this stage*".

InterGen Response:

8.3.2 The DECC November 2009 CCR Guidance states that: "*deployment of CCS will involve major infrastructure changes on site and will therefore necessitate another Section 36 Consent or in due course Consent by the Infrastructure Planning Commission under the Planning Act 2008. In order to retrofit CCS, Government has made it clear that a further Section 36 application will be required. … At this point an EIA covering the impacts arising from CCS at the power station will be conducted and an Environmental Statement included in the application. If Consent for the transport method, for example a CO_2 pipeline, is included in the application to retrofit carbon*

[4] *Carbon Capture Readiness (CCR) – A Guidance Note for Section 36 Electricity Act 1989 Consent Applications (DECC, November 2009, URN 09D/810)*

capture to the plant, the ES would also need to cover it's impacts: if not, then the impacts of CO_2 transport will be assessed as part of a separate Consent application".

8.3.3 In addition, the DECC November 2009 Guidance also states that the reasons that an EIA is not required for CCS at the CCR stage are because "*given the inevitable uncertainty about the precise route [for the CO_2 pipeline] and what might by CCS stage in the future be the safety and environmental requirements, we do not envisage any formal environmental impact assessment (EIA) being undertaken. This will however need to be done when an operator wishes to fit CCS to the plant*".

8.3.4 As CCS does not form part of the GEC development for which Section 36 Consent is being sought at this time, the environmental effects of CCS are not assessed as direct effects. Nevertheless, Section 19 (Indirect / Secondary and Cumulative Impacts) includes discussion of the potential impacts of CCR / CCS.

9 AIR QUALITY

9.1 Impact of GEC CO_2 Emissions on Thurrock's Carbon Footprint

9.1.1 Thurrock Council requested that GECL / InterGen address the potential implications of GEC CO_2 emissions on Thurrock's carbon footprint. This is discussed below in terms of emissions savings (compared to other forms of power generation) and the historical generation in the local area / historical emissions of CO_2.

Emissions Savings Calculations

9.1.2 ES Table 6.3 presented a comparison between the atmospheric emissions from various different types of fossil fuelled power plant.

9.1.3 Emissions saving calculations are presented in Section 6 of ES Volume 1 (at Paragraphs 6.2.37 to 6.3.40). These calculations show that GEC would emit approximately 2.85 million tonnes of CO_2 per annum. In comparison, for an equivalent electrical capacity, a new supercritical coal fired power station (with Selective Catalytic Reduction (SCR)) would emit approximately 5.53 million tonnes of CO_2 per annum and an existing conventional coal fired power plant (with Flue Gas Desulphurisation (FGD) and SCR) would emit approximately 6.69 million tonnes CO_2 per annum.

9.1.4 Consistent with Paragraph 6.3.37 of ES Volume 1, this would equate to a total saving of the order of 3.84 million tonnes per annum of CO_2 if GEC were to displace an equivalent existing conventional coal fired power plant (with FGD and SCR) and 2.68 million tonnes per annum of CO_2 if GEC were to displace the development of an equivalent supercritical coal fired power station.

9.1.5 A further important consideration is that a generating plant of comparable size and efficiency to GEC, transmitting from Scotland to England would, result in a loss of capacity of around 6 %, compared with approximately 1 % losses of distributing electricity around SE England from GEC. The net saving in CO_2 due to avoided transmission losses is in effect approximately 5 %, which equates to approximately 142,500 tonnes/yr CO_2 saving.

9.1.6 The above points illustrate that GEC as a whole is:

- A carbon efficient generator relative to comparable coal-fired generation;
- A carbon efficient generator that will reduce the potential carbon footprint of GEC by siting the plant in the South East thus minimising transmission losses; and
- A carbon efficient generator in respect of the local supply to the LG Development relative to it receiving electricity from the National Grid.

9.1.7 Additionally, GEC will be designed to be Carbon Capture Ready (CCR), with space made available in the design to allow for the retrofitting of a carbon capture plant in the future. Once installed the carbon capture plant could capture approximately 90 % of the CO_2 emissions from GEC, thus preventing their release to the atmosphere. This is discussed further in the CCR Feasibility Study which accompanies the Section 36 Consent application.

9.1.8 The operation of GEC could make a significant contribution to the UK Government's policy of reducing CO_2 emission levels whilst maintaining a secure supply of electricity.

History of Generation in the Local Area / Estimation of Historical Emissions of CO_2

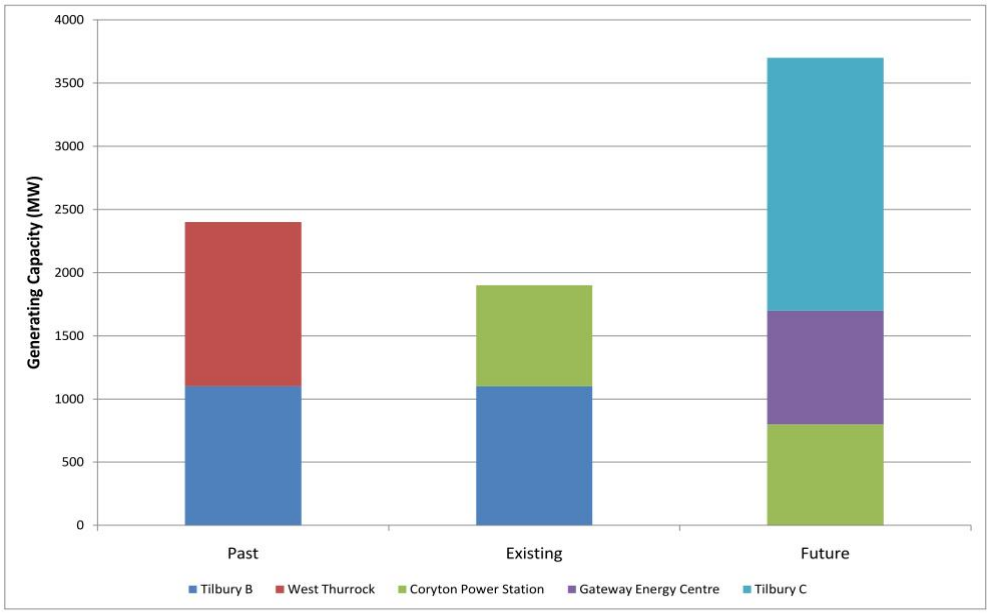
9.1.9 The area surrounding the GEC site has a history of industrial activity, including electricity generation.

9.1.10 A summary of electricity generation in the area is provided in the Table below.

	Capacity (MW)	***Fuel***	***Comm. Date***	***Decomm. Date***	
Coryton Power Station	800	Gas	2001	-	Existing / Future
Gateway Energy Centre	900	Gas	2015	-	Future
Tilbury B	1100	Coal	1956	2015	Past / Existing
Tilbury C	2000	Gas	2016	-	Future
West Thurrock Power Station	1300	Coal	1962	1993	Past

9.1.11 Based on the information in the above Table, the generation trends in the area surrounding the GEC site can be seen in Insert 9.1.

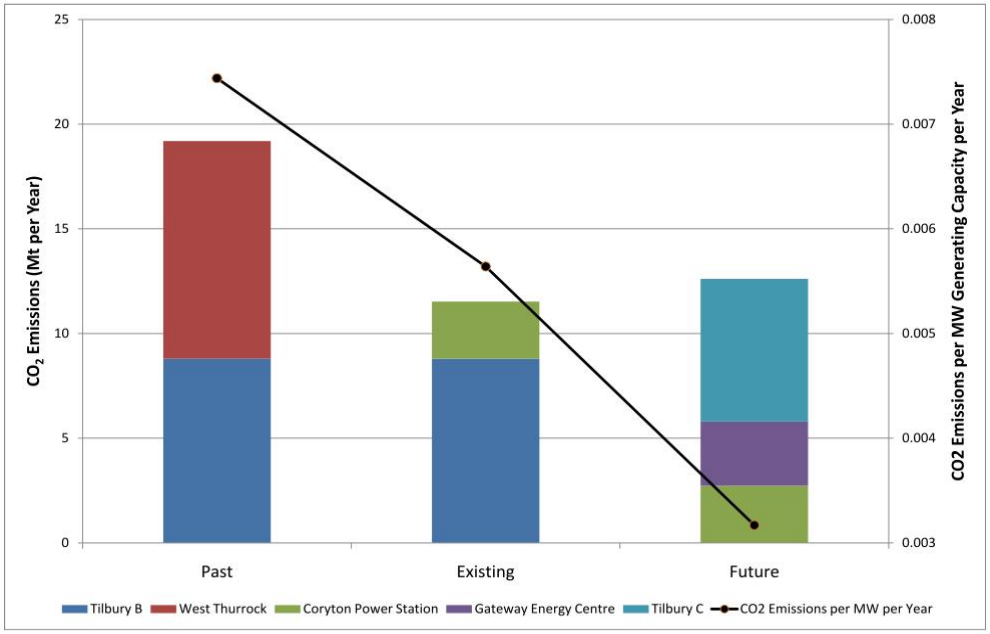
INSERT 9.1: POWER GENERATION TRENDS



9.1.12 In terms of CO_2 emissions, the Insert 9.2 illustrates the trends in CO_2 emissions per year based on the Table provided above. A similar methodology to that applied in ES Paragraphs 6.3.27 to 6.3.39 is applied.

9.1.13 The supporting calculations are based on the individual power plant electrical generation capacities, CO_2 emissions in kg/MWh as per ES Table 6.3, and a power plant availability of 100 per cent.

INSERT 9.2: CO_2 EMISSION TRENDS



10 NOISE AND VIBRATION

No changes / clarification / supplementary information required.

11 LANDSCAPE AND VISUAL

11.1 Thurrock Council (Landscape) Consultation Response

11.1.1 The Thurrock Council (Landscape) consultation response stated that:

"*The current baseline is assessed where by vertical structures rise above marshlands and open views of the River Thames. The GEC Power Station would be predicted to be a distinct landmark, lying between a Bitumen Plant to the west and CEL Power Station to the east. … It is predicted that the proposed GEC Power Station will be perceived as significant intensification of large scale coastal development. The contrast of the proposed structures to the surrounding marshland and the apparent visual separation of CEL and the GEC Power Stations are predicted to generate significant effects to receptors laying NW to NE and SE to SW. It is considered that the current appraisal has underestimated the likely LVIA effects of this baseline*"

Furthermore:

"*London Gateway Development (LGD) is not developed as presented and illustrated in the supporting photomontages. … London Gateway Logistics Park and DP World Deep Sea Port are major development scheduled for the area. There is sufficient detail in the public realm to establish a future baseline. It is predicted that the novelty of the structures (i.e. stacks and the scale of buildings rising above the LGD design guide of height zones would generate landscape character and visual amenity effects and therefore should form part of the LVIA*".

In addition:

"*The number and range of visual receptors is considered to provide an indicative assessment only. … Within Thurrock, panoramic views are considered to be likely from the following settlements: Corringham, Fobbing, Horndon-on-the-Hill and Stanford-le-Hope. … Consideration of the scale and severity of effects for dwelling, recreation spaces and adjacent public rights of way should form part of the assessment. It is noted that views section include views of near and middle distance features which may not be representative of a wider selection of viewpoints*".

InterGen Response:

11.1.2 Additional Landscape and Visual Impact Assessment (LVIA) has been undertaken in two distinct parts. These are:

- Part 1 – The updating of the current LVIA and preparation of additional photomontages to include the LG Development; and
- Part 2 – The preparation of a supplementary LVIA and photomontages to include additional receptors.

Part 1 – Update of Current LVIA and Photomontages

Summary of Findings of Current LVIA

11.1.3 The landscape and visual impact assessment was presented in Section 11 of Volume 1 of the ES. This included the preparation of 10 Photomontages, based on a design concept, from which an assessment could be made of the likely scale and visual impact of GEC. The photomontages represented views from 10 viewpoints which were identified as being representative of the likely visual impact of GEC in the area.

11.1.4 The substantial buildings envisaged on the GEC site listed in the ES Volume 1, Table 11.10 include the: turbine hall; heat recovery steam generators (HRSGs); air cooled condensers (ACCs) and storage tanks. The remaining plant and equipment will predominately be housed in relatively low buildings. The tallest structures on site will be the two stacks.

11.1.5 The assessment was based on the revised guidance set out in 'Landscape and Visual Impact Assessment' published by the Landscape Institute and Institute for Environmental Assessment (2002). The first stage of the assessment involves establishing the landscape and visual baseline of the proposed development site and the surrounding area, and the second involves the identification of landscape and visual impacts associated with the proposed development. The Assessment Methodology and Significance Criteria are fully described in Section 11.4 of the ES.

11.1.6 Section 11.5 provides a description of the Baseline Conditions and Receptors.

11.1.7 Included in this Section was a description of the potential visual receptors in the area which were identified using a Zone of Theoretical Visibility (ZTV) diagram (Figure 11.2 of the ES) for the 10 km surrounding the GEC site. The ZTV was based on the visibility of two 75 m stacks. Also included in this Section is a description of the 10 viewpoints (which were selected based on the above ZTV) which were selected in order to assess the likely visual impact of GEC when viewed from the surrounding area. The locations of the 10 viewpoints were shown in Figure 11.3 of the ES. Photomontages showing both the existing view and the anticipated view incorporating GEC were presented in Figures 11.6 to 11.15 of the ES.

11.1.8 A summary of the viewpoints and the anticipated visual impacts is presented in the following Table.

SUMMARY OF VIEWPOINTS AND ANTIPICATED VISUAL IMPACTS PRESENTED IN VOLUME 1 OF THE ES

Viewpoint		***Distance from Site (km)***	***Sensitivity***	***LVIA Result***
1	Oozedam Country Road	1.3 (N)	Medium	Moderate / Minor
2	Road Bridge on the Canvey Way (A130)	4.8 (NE)	Low	Minor
3	Hadleigh Castle	8.6 NNE	Medium	Minor
4	Swigshole	7.0 SSE	Medium	Minor
5	Northward Hill (Corner of Cooling Road and Wybournes Lane)	8.0 SE	High	Moderate / Minor to Moderate
6	Cooling	6.4 SSE	High	Moderate / Minor to Moderate
7	Cliffe Marshes northern border with the Thames	2.5 S	Medium	Moderate / Minor
8	East Tilbury – Coalhouse Fort	6.5 SW	High	Moderate / Minor
9	Oak Farm	3.2 NWW	High	Moderate / Minor
10	Wat Tyler Country Park	3.9 N	High	Moderate / Minor

Update of Current LVIA

11.1.10 The LVIA presented in the ES considered the impacts associated with the construction of GEC in the context of the existing site conditions. However, at the time of undertaking the LVIA there was one major development which has the potential to give rise to cumulative impacts in conjunction with GEC. This is the LG Development. Once constructed, the LG Development will substantially change the landscape of the surrounding area by introducing a large number of warehouses / distribution depots, port facilities and associated infrastructure to the landscape.

11.1.11 In terms of the anticipated impacts the ES stated that:

"*The LG Development will partially screen views of GEC from the north, west and south. This will result in the majority of the smaller buildings being entirely screened with many of the larger buildings barely visible. It is predicted however that in the majority of cases, views of the 75 m stacks will still be achievable*" (Paragraph 11.9.4)

Furthermore:

"*The LVIA has considered the impacts of the two projects together and it is considered that the impact of the GEC development will, if anything, reduce when seen in the context of the LG Development which has already received planning permission from the relevant authorities. As such the impact of GEC will be no greater than that predicted*" (Paragraph 11.9.5).

11.1.12 However, the photomontages in the ES do not include the built up LG Development. Additional photomontages have been prepared (and are discussed below) which include the LG Development. These are presented in Figures 11.1 to 11.10 (see Environmental Statement Further Information Document – Figures). It should be noted that in the photomontages presented, the cranes associated with the LG Port are in a horizontal position. By assuming a horizontal position, their ability to offset

the height of the 75 m stacks is minimised. In their inclined position, the crane boom would be significantly higher (approximately 145 m).

Viewpoint 1

11.1.13 The photomontage shown in Figure 11.1 shows the predicted view from the farm field just off Oozedam Country Road, approximately 1.3 km north of the GEC site across a field looking south towards the site.

11.1.14 The foreground is dominated by the transmission lines, Shell Tank Farm and the built up LG Development. The main buildings of GEC are screened by the LG Development, such that the only visible parts of GEC are the two 75 m high stacks.

Receptor Sensitivity

11.1.15 The receptor is considered to have a 'medium' sensitivity given its recreational nature as a footpath albeit that the views are dominated by the transmission pylons in the foreground and the Coryton Oil Refinery to the east of the GEC site.

Magnitude of Change

11.1.16 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Low' to 'Negligible' as views of GEC are limited and screened.

Impact

11.1.17 It can be concluded that the impact to the receptor would be 'Moderate / Minor' to 'Minor' and Not Significant.

Viewpoint 2

11.1.18 The photomontage shown in Figure 11.2 shows the predicted view from the Road Bridge on the Canvey Way (A130), approximately 4.8 km north east of the GEC site across numerous fields looking south west towards the site.

11.1.19 GEC is almost entirely obscured from this location by the wider industrial setting, and the two 75 m stacks cannot be distinguished from the cranes associated with the LG Port.

Receptor Sensitivity

11.1.20 The receptor is considered to have a 'Low' sensitivity given the lack of nearby properties, recreational areas and other more sensitive receptors. The view is typical of the impact of the plant as viewed from the A130 running north from Canvey Island to North Benfleet.

Magnitude of Change

11.1.21 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible' as views of GEC are almost entirely obscured.

Impact

11.1.22 It can be concluded that the impact to the receptor would be 'Minor / None' and Not Significant.

Viewpoint 3

11.1.23 The photomontage shown in Figure 11.3 shows the predicted view from Hadleigh Castle, approximately 8.6 km north east of the GEC site

11.1.24 Whilst this photomontage represents an elevated viewpoint which has the effect of making the facilities in the foreground smaller, GEC is barely visible behind the collection of stacks, tanks and industrial infrastructure of the existing CECL Power Station, Coryton Oil Refinery and Shell Tank Farm.

Receptor Sensitivity

11.1.25 As it is located in a recreational area designated as a country park the receptor is considered to have a 'Medium' level of sensitivity to changes in views.

Magnitude of Change

11.1.26 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible', with GEC concealed to a significant extent by the existing CECL Power Station, Coryton Oil Refinery and Shell Tank Farm.

Impact

11.1.27 It can be concluded that the impact to the receptor would be 'Minor' and Not Significant.

Viewpoint 4

11.1.28 The photomontage shown in Figure 11.4 shows the view from the farm road near to Swigshole, approximately 7.0 km south east of the GEC site across open fields and marshland towards the site.

11.1.29 The existing CECL Power Station, Coryton Oil Refinery and Shell Tank Farm are easily identifiable in the right hand side of the photomontage. The left hand side of the photomontage is dominated by the cranes associated with the LG Port, such that the two 75 m stacks cannot be distinguished.

Receptor Sensitivity

11.1.30 The receptor is considered to have a 'Medium' sensitivity due to the presence of a few scattered residential properties and the footpath from which the picture was taken.

Magnitude of Change

11.1.31 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible', as GEC cannot be distinguished from the cranes associated with the LG Port.

Impact

11.1.32 It can be concluded that the impact to the receptor would be 'Minor' and Not Significant.

Viewpoint 5

11.1.33 The photomontage shown in Figure 11.5 shows the predicted view from High Halstow at the corner of Cooling Road and Wybournes Lane, approximately 8.0 km south east of the GEC site across numerous fields looking north-west towards the site.

11.1.34 The existing CECL Power Station, Coryton Oil Refinery and Shell Tank Farm can be seen in the in the right hand side of the photomontage. GEC (in the centre of the photomontage) is almost entirely obscured by the cranes associated with the LG Port, to the point where the two 75 m stacks cannot be easily identified.

Receptor Sensitivity

11.1.35 The receptor is considered to have a 'High' sensitivity, close as it is, to the village of High Halstow, a wildlife reserve and a designated National Trail.

Magnitude of Change

11.1.36 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible', as GEC (including the two 75 m stacks) cannot be distinguished from the cranes associated with the LG Port.

Impact

11.1.37 Abiding strictly by the assessment methodology in Section 11.4 of the ES, it can be concluded that the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Viewpoint 6

11.1.38 The photomontage shown in Figure 11.6 shows the predicted view from Cooling, approximately 6.4 km south of the GEC site.

11.1.39 As with Viewpoint 5, the existing CECL Power Station, Coryton Oil Refinery and Shell Tank Farm can be seen in the in the right hand side of the photomontage. GEC (in the centre of the photomontage) is almost entirely obscured by the cranes associated with the LG Port, to the point where the two 75 m stacks cannot be easily identified.

Receptor Sensitivity

11.1.40 The receptor is considered to have a 'High' sensitivity, being close to a number of residential properties, a wildlife reserve and a designated National Trail.

Magnitude of Change

11.1.41 As with Viewpoint 5, the magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible', as GEC (including the two 75 m stacks) cannot be distinguished from the cranes associated with the LG Port.

Impact

11.1.42 Abiding strictly by the assessment methodology in Section 11.4 of the ES, it can be concluded that the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, as with Viewpoint 5, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Viewpoint 7

11.1.43 The photomontage shown in Figure 11.7 shows the predicted view from Cliffe Marshes northern border with the River Thames, approximately 2.5 km south of the GEC site across the river towards the site.

11.1.44 Due to the location of the cranes associated with the LG Port, views of GEC are partially screened. Views of the existing CECL Power Station and the Coryton Oil Refinery are also partially screened by the cranes associated with the LG Port. However, were the crane locations to alter, GEC would be visible on the opposite side of the river next to the Shell Tank Farm.

Receptor Sensitivity

11.1.45 The receptor is considered to have a 'Medium' sensitivity given its nature as a recreational area (footpath).

Magnitude of Change

11.1.46 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Low' as, whilst GEC could be clearly noticeable from this Viewpoint (which is very close to the proposed site location), GEC would be seen within the context of the existing CECL Power Station, Coryton Oil Refinery and Shell Tank Farm which strongly influences the existing view. In addition, the built-up LG Development would further add to the industrial nature of the view.

Impact

11.1.47 It can be concluded that the impact to the receptor would be 'Moderate / Minor' and Not Significant.

Viewpoint 8

11.1.48 The photomontage shown in Figure 11.8 shows the view from Coalhouse Fort near East Tilbury, approximately 6.5 km south west of the GEC site across marshland looking towards the site.

11.1.49 GEC will be almost entirely screened by the built up LG Development, especially the cranes associated with the LG Port which reduce the visual impact of the two 75 m stacks.

Receptor Sensitivity

11.1.50 The receptor is considered to have a 'High' sensitivity due to its historic setting close to a number of residential properties and proximity to footpaths and a cycleway.

Magnitude of Change

11.1.51 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible', as GEC (including the two 75 m stacks) cannot be easily distinguished from the LG Development, especially the cranes associated with the LG Port.

Impact

11.1.52 Abiding strictly by the assessment methodology in Section 11.4 of the ES, it can be concluded that the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Viewpoint 9

11.1.53 The photomontage shown in Figure 11.9 shows the view from Oak Farm near Corringham, approximately 3.2 km west of the GEC site across open fields looking towards the site.

11.1.54 Based on the photomontage, GEC (including the two 75 m stacks) would be entirely screened by the LG Logistics and Business Park buildings. The cranes associated with the LG Port are visible against the skyline, and the existing transmission lines, CECL Power Station and Coryton Oil Refinery are also clearly visible.

Receptor Sensitivity

11.1.55 The view from this location is indicative of some of the views that would be experienced from the south and east of Corringham. The view is therefore considered to have a 'High' sensitivity to change due to the number of residential properties in the area.

Magnitude of Change

11.1.56 The magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible', as GEC (including the two 75 m stacks) is entirely screened by the LG Logistics and Business Park buildings.

Impact

11.1.57 Abiding strictly by the assessment methodology in Section 11.4 of the ES, it can be concluded that the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Viewpoint 10

11.1.58 The photomontage shown in Figure 11.10 shows the view from the Wat Tyler Country Park, approximately 3.9 km north of the GEC site.

11.1.59 Based on the photomontage, GEC (including the two 75 m stacks) would be entirely screened by the LG Logistics and Business Park buildings. The cranes associated with the LG Port are visible against the skyline, and the existing transmission lines, CECL Power Station and Coryton Oil Refinery are also clearly visible.

Receptor Sensitivity

11.1.60 The receptor is considered to have a 'High' sensitivity representing the views of recreational users of the Country Park.

Magnitude of Change

11.1.61 As with Viewpoint 9, the magnitude of change to the existing view (assuming that the LG Development is built up) would be 'Negligible', as GEC (including the two 75 m stacks) is entirely screened by the LG Logistics and Business Park buildings.

Impact

11.1.62 Abiding strictly by the assessment methodology in Section 11.4 of the ES, it can be concluded that the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Summary

11.1.63 A summary of the effects of GEC taking account of the LG Development, on the LVIA is presented in the Table below.

SUMMARY OF VIEWPOINTS AND ANTIPICATED VISUAL IMPACTS

Viewpoint		Distance from Site (km)	Sensitivity	LVIA Result including the LG Development
1	Oozedam Country Road	1.3 N	Medium	Moderate / Minor to Minor
2	Road Bridge on the Canvey Way (A130)	4.8 NE	Low	Minor / None
3	Hadleigh Castle	8.6 NNE	Medium	Minor
4	Swigshole	7.0 SSE	Medium	Minor
5	Northward Hill (Corner of Cooling Road and Wybournes Lane)	8.0 SE	High	Moderate / Minor to Minor
6	Cooling	6.4 SSE	High	Moderate / Minor to Minor
7	Cliffe Marshes northern border with the Thames	2.5 S	Medium	Moderate / Minor
8	East Tilbury – Coalhouse Fort	6.5 SW	High	Moderate / Minor to Minor
9	Oak Farm	3.2 NWW	High	Moderate / Minor to Minor
10	Wat Tyler Country Park	3.9 N	High	Moderate / Minor to Minor

Part 2 – Supplementary LVIA and Photomontages

Selection of Additional Visual Receptors

11.1.64 In line with the Thurrock Council (Landscape) consultation response, Figures 11.11 to 11.14 (see Environmental Statement Further Information Document – Figures)

provide various ZTV diagrams for the 10 km surrounding the GEC site based on the visibility of the stacks and main buildings (42 m in height) with and without the LG Development.

11.1.65 Based on these ZTVs and a subsequent site visit, a further 4 viewpoints were identified. The locations of these viewpoints in relation to GEC are shown in Figure 11.15 (see Environmental Statement Further Information Document – Figures).

LOCATIONS OF ADDITIONAL VIEWPOINTS

Additional Viewpoint		***Distance from Site (km)***	***Nature of Receptor (e.g. residential, recreational etc)***	***Sensitivity***
A	East Tilbury – Coalhouse Fort	6.8 (SW)	The view was selected to represent the views from the residential areas near East Tilbury and from the Coalhouse Fort tourist attraction.	High
B	Horndon on the Hill	6.2 (NWW)	The view was selected to represent the views across the residential areas of Horndon on the Hill, Stanford-le-Hope and Corringham.	High
C	Langdon Hills Country Park	5.3 (NW)	This view was selected to represent the views from the Langdon Hill Country Park.	High
D	Fobbing	2.1 (NW)	The view was selected to represent the views from the residential area of Fobbing.	High

Viewpoint A

11.1.66 The photograph shown in Figure 11.16 / Figure 11.20 (see Environmental Statement Further Information Document – Figures) shows the view from Coalhouse Fort near East Tilbury, approximately 6.8 km south-west of the GEC site.

11.1.67 The location is at the tourist attraction of Coalhouse Fort. The viewpoint looks out over Mucking Flats Marshes in a north east direction, where the stacks and silos of the Coryton Oil Refinery can be identified towards the left of the photograph.

Viewpoint B

11.1.68 The photograph shown in Figure 11.17 / Figure 11.21(see Environmental Statement Further Information Document – Figures) shows the view from Horndon on the Hill, approximately 6.2 km north-west of the GEC site.

11.1.69 The viewpoint is elevated, looking south-east towards the GEC site. The existing transmission lines, CECL Power Station and Coryton Oil Refinery are clearly visible in the centre of the photograph.

Viewpoint C

11.1.70 The photograph shown in Figure 11.18 / Figure 11.22 (see Environmental Statement Further Information Document – Figures) shows a view from Langdon Hills Country Park, approximately 5.3 km north-west of the GEC site.

11.1.71 The viewpoint is elevated, looking south-east towards the GEC site across Corringham Marshes and Fobbing Marshes. The existing transmission lines, CECL Power Station and Coryton Oil Refinery are clearly visible in the photograph.

Viewpoint D

11.1.72 The photograph in Figure 11.19 / Figure 11.23 (see Environmental Statement Further Information Document – Figures) shows the view from Fobbing, approximately 2.1 km north-west of the GEC site.

11.1.73 The viewpoint looks out over Corringham Marshes in a south east direction, where the existing transmission lines, CECL Power Station and Coryton Oil Refinery are clearly visible in the photograph.

LVIA

Viewpoint A

11.1.74 The photomontages in Figure 11.16 / Figure 11.20 show the predicted view from Coalhouse Fort near East Tilbury, approximately 6.8 km south west of the GEC site across marshland looking towards the site

11.1.75 Without the LG Development (Figure 11.16), GEC can be seen in the left of the photomontage.

11.1.76 With the LG Development (Figure 11.20), GEC is almost entirely screened by the built up LG Development, especially the cranes associated with the LG Port which reduce the visual impact of the two 75 m stacks.

Receptor Sensitivity

11.1.77 The receptor is considered to have a 'High' sensitivity due to its historic setting close to a number of residential properties and proximity to footpaths and a cycleway.

Magnitude of Change

11.1.78 Without the LG Development (Figure 11.16), the magnitude of change to the existing view would be 'Negligible', as GEC would only be visible in the distance and would be seen in the context of the existing transmission lines, CECL Power Station and Coryton Oil Refinery.

11.1.79 With the LG Development (Figure 11.20), the magnitude of change to the existing view would be 'Negligible', as GEC (including the two 75 m stacks) cannot be easily distinguished from the LG Development, especially the cranes associated with the LG Port.

Impact

11.1.80 In both cases (Figures 11.16 and 11.20) the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Viewpoint B

11.1.81 The photomontages in Figure 11.17 / Figure 11.21 show the predicted view from Horndon on the Hill, approximately 6.2 km north west of the GEC site.

11.1.82 Without the LG Development (Figure 11.17), GEC can be seen in the left of the photomontage along with the existing transmission lines, CECL Power Station and Coryton Oil Refinery.

11.1.83 With the LG Development (Figure 11.21), GEC would be screened by the LG Logistics and Business Park buildings, with only the two 75 m stacks visible. The cranes associated with the LG Port are visible against the skyline, and the existing transmission lines, CECL Power Station and Coryton Oil Refinery are also clearly visible.

Receptor Sensitivity

11.1.84 The view from this location is indicative of some of the view that would be experienced from north west. The viewpoint is therefore considered to have a 'High' sensitivity due to the number of residential properties in the area.

Magnitude of Change

11.1.85 Without the LG Development (Figure 11.17), the magnitude of change to the existing view would be 'Negligible', as GEC would only be visible in the distance and would be seen in the context of the existing transmission lines, CECL Power Station and Coryton Oil Refinery.

11.1.86 With the LG Development (Figure 11.21), the magnitude of change to the existing view would be 'Negligible', as GEC (including the two 75 m stacks) cannot be easily distinguished from the LG Development, especially the cranes associated with the LG Port.

Impact

11.1.87 In both cases (Figures 11.17 and 11.21) the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, as before, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Viewpoint C

11.1.88 The photomontages in Figure 11.18 / Figure 11.22 show the predicted view from Langdon Hills Country Park, approximately 5.3 km north west of the GEC site.

11.1.89 Without the LG Development (Figure 11.18), GEC can be seen in the right of the photomontage along with the existing transmission lines, CECL Power Station and Coryton Oil Refinery.

11.1.90 With the LG Development (Figure 11.22), GEC would be partially screened by the LG Logistics and Business Park buildings, with only the two 75 m stacks visible. The cranes associated with the LG Port are visible against the skyline, and the existing transmission lines, CECL Power Station and Coryton Oil Refinery are also clearly visible.

Receptor Sensitivity

11.1.91 This viewpoint is considered to have a 'High' sensitivity as it represents the views of recreational users of the country park.

Magnitude of Change

11.1.92 Without the LG Development (Figure 11.18), the magnitude of change to the existing view would be 'Negligible', as GEC would only be visible in the distance and would be seen in the context of the existing transmission lines, CECL Power Station and Coryton Oil Refinery.

11.1.93 With the LG Development (Figure 11.22), the magnitude of change to the existing view would be 'Negligible', as GEC (including the two 75 m stacks) cannot be easily distinguished from the LG Development, especially the cranes associated with the LG Port.

Impact

11.1.94 In both cases (Figures 11.18 and 11.22) the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, as before, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

Viewpoint D

11.1.95 The photomontages in Figure 11.19 / Figure 11.23 show the predicted view from Fobbing, approximately 2.1 km north west of the GEC site.

11.1.96 Without the LG Development (Figure 11.19), GEC can be seen in the right of the photomontage along with the existing transmission lines, CECL Power Station and Coryton Oil Refinery.

11.1.97 With the LG Development (Figure 11.23), GEC would be partially screened by the LG Logistics and Business Park buildings, with only the two 75 m stacks visible. The cranes associated with the LG Port are visible against the skyline, and the existing transmission lines, CECL Power Station and Coryton Oil Refinery are also clearly visible.

Receptor Sensitivity

11.1.98 This viewpoint is considered to have a 'High' sensitivity as it represents the views from the residential area of Fobbing.

Magnitude of Change

11.1.99 Without the LG Development (Figure 11.19), the magnitude of change to the existing view would be 'Negligible', as GEC would be seen in the context of the existing transmission lines, CECL Power Station and Coryton Oil Refinery.

11.1.100 With the LG Development (Figure 11.23), the magnitude of change to the existing view would be 'Negligible', as GEC (including the two 75 m stacks) cannot be easily distinguished from the LG Development, especially the cranes associated with the LG Port.

Impact

11.1.101 In both cases (Figures 11.19 and 11.23) the impact to the receptor would be 'Moderate / Minor' and Not Significant. However, as before, it could be reasoned that the impact to the receptor is more likely to be 'Minor' given the nature of the view.

SUMMARY OF ADDITIONAL VIEWPOINTS AND ANTIPICATED VISUAL IMPACTS

Viewpoint		***Distance from Site (km)***	***Sensitivity***	***LVIA Result***	***LVIA Result including the LG Development***
A	East Tilbury – Coalhouse Fort	6.8 (SW)	High	Moderate / Minor to Minor	Moderate / Minor to Minor
B	Horndon on the Hill	6.2 (NWW)	High	Moderate / Minor to Minor	Moderate / Minor to Minor
C	Langdon Hills Country Park	5.3 (NW)	High	Moderate / Minor to Minor	Moderate / Minor to Minor
D	Fobbing	2.1 (NW)	High	Moderate / Minor to Minor	Moderate / Minor to Minor

12 ECOLOGY

12.1 Natural England Consultation Response

First Update to ES Section 12.6 (Table 12.7)

12.1.1 The Natural England consultation response stated that:

"*Thundersley Great Common SSSI currently suffers from an existing NOx concentration of 103.3 % of the critical level, so the additional 1.0 % predicted for this site will further exacerbate the situation at a currently Unfavourable Recovering Site*".

InterGen Response:

12.1.2 The air dispersion modelling assessment has assumed worst case emissions concentrations for NO_x based on the limits prescribed by UK / EU Legislation (50 / 64.4 mg/Nm^3 for no supplementary firing / supplementary firing respectively). However, the EU Reference Document on BAT for Large Combustion Plants (BREF) suggests typical emissions of 20 to 50 mg/Nm^3. BAT will be applied to GEC and will include the use of Dry Low NOx Premix Burners and Dry Low NO_x Burners as stated in the ES (Section 4.2).

12.1.3 Furthermore, the air dispersion modelling assessment has assumed a worst case operating regime of 100 % load and 93 % availability. However, the actual operating regime is likely to vary between a number of loads (to include 100% load, but also reduced load operation and cycling) in order to meet the requirements of the National Grid. The overall effect of running GEC at regimes other than 100 % load would be to reduce the predicted long term average concentrations of NOx as a result of a lower fuel combustion rate.

12.1.4 Therefore, the assumptions of the air dispersion modelling represent a significant over estimation of the anticipated annual average process contributions to ground level concentrations of NO_x.

12.1.5 The incremental increase in NO_x concentration for Thundersley Great Common SSSI is more likely to be between 0.4 to 1.0 %, below the threshold of significance.

Further Information

12.1.6 The above response was discussed with Natural England.

12.1.7 Natural England agreed that the air dispersion modelling assessment predicts that the impact is highly likely to be below the threshold of significance. However, Natural England noted that as the SSSI is in an "*unfavourable but recovering*" state and therefore welcomes InterGen / GECL's proposal that it contribute to or participate in a Management Scheme (see Paragraph 12.1.22).

Second Update to ES Section 12.6 (Table 12.7)

12.1.8 The Natural England consultation response stated that:

"*There is no clear explanation in the ES for the conclusion in Paragraph 12.6.28 that "the additional NOx generated by the proposed GEC scheme will potentially have a significant adverse effect on the site, however this effect is considered to be of low magnitude'*"".

InterGen Response:

12.1.9 The methodology for the air dispersion modelling assessment follows the Ecological Impact Assessment Guidance issued by the Institute of Ecology and Environmental Management (IEEM). Full details are provided in Section 12.4 of Volume 1 of the ES.

12.1.10 The Guidelines states that an impact is ecologically significant if the impact affects the integrity of a defined site (Paragraphs 12.4.26 to 12.4.32).

12.1.11 As noted by Natural England, the Thundersley Great Common SSSI currently suffers from an existing NO_x concentration of 103.3 % of the critical level and an additional 1.0 % of the critical level of NO_x will increase ground level concentrations at the site further above the critical level.

12.1.12 The air dispersion modelling assessment correctly defines the potential air quality impacts as significant and adverse, as it increases the existing NOx concentration at the SSSI above the critical level. However, it should still be noted (as with the First Update to ES Section 12.6 above) that the incremental increase in NOx concentration for Thundersley Great Common SSSI is more likely to be between 0.4 to 1.0 %, below the threshold of significance.

12.1.13 Table 12.2 of the ES presents the Definition of Magnitude used in the Ecological Impact Assessment (it is noted that this is not within the IEEM Guidance but has been included to allow comparison between other environmental disciplines (presented in other Sections of the ES) which attribute a magnitude of impact). Table 12.2 states that a 'Low Magnitude' impact is one which is a "permanent or long term reversible impact". As the incremental increase in NO_x concentration will be reversible upon the

closure of GEC, it is considered that the conclusion that the effect of GEC will be of a low magnitude is correct.

Further Information

12.1.14 The above response was discussed with Natural England who agreed with the air dispersion modelling methodology and conclusion.

Update to ES Section 12.6 (Table 12.8)

12.1.15 The Natural England consultation response stated that:

"*At four of the potentially affected SSSIs (Vange and Fobbing Marshes SSSI and Thundersley Great Common SSSI in Essex, and Northwood Hill SSSI and Chattenden Woods SSSI in Kent) the critical loads for nitrogen deposition are currently being exceeded. Any extra nitrogen deposition impacts from the GEC scheme will therefore contribute to worsen the situation at these sites, even if the predicted additions are relatively small*".

InterGen Response:

12.1.16 It is noted that the above SSSIs are in exceedance of their respective critical loads for nitrogen deposition. However, the GEC process contributions to each of these sites will be less than 1 % of the critical load and therefore well below the threshold of significance. In addition, the predicted percentage change from existing conditions of all four sites currently exceeding critical loads, as a result of emissions from GEC, is 0.02 % or less.

12.1.17 Furthermore, the worst case assumptions in the air dispersion modelling (described above) represent a significant over-estimation of the nitrogen deposition effects of each of the SSSI presented in Table 12.8 of the ES.

Further Information

12.1.18 The above response was discussed with Natural England.

12.1.19 Natural England agreed that the air dispersion modelling assessment predicts that the impact is highly likely to be below the threshold of significance. However, Natural England noted that as the Thundersley Great Common SSSI is in an "*unfavourable but recovering*" state and therefore welcomes InterGen / GECL's inclusion in a Management Scheme (see Paragraph 12.1.22)

Update to ES Section 12.6 (Table 12.8)

12.1.20 The Natural England consultation response stated that:

"*Paragraph 12.7.12 accepts that a significant adverse impact on Thundersley Great Common SSSI will occur during the operational phase of the GEC scheme. No mitigation is proposed for this impact, although the ES comments that "GECL propose an ongoing dialogue with regard to impacts to this receptor with the relevant authorities" … We anticipate that should GECL wish to engage in … management initiative … [the relevant authorities] would be supportive of this approach and would welcome direct participation. It would be appropriate therefore for some concrete recognition of this potential off site air quality mitigation measures available to be set out within the ES*".

InterGen Response:

12.1.21 Discussions have been held with Natural England in this regard (see below).

InterGen / GECL's Involvement in Management Schemes

12.1.23 Following further discussions with Natural England, InterGen / GECL has agreed to:

- Provide an ecologist for 1 to 2 days per year over a 5 year term to monitor mitigation works to regenerate acid grassland at Thundersley Great Common SSSI; and,
- Participate in a new Project to increase the population of the Least Lettuce (Lactuca saligna) species at Vange and Fobbing Marshes SSSI.

12.1.24 This involvement by GECL in the above Management Schemes has been welcomed by Natural England and has overcome their concerns.

12.2 DP World – London Gateway Consultation Response

Clarification to ES Section 12

12.2.1 DP World – London Gateway provide the following clarification:

"*Various references within Section 12 of the GEC ES suggest that Valued Ecological Receptors have been cleared from the GEC site as part of the ecological mitigation associated with the London Gateway Commercial and Logistics Park development. In fact, clearance of the area of land within the London Gateway site which corresponds with the GEC site is the subject of an application pursuant to the Conservation (Natural Habitats and c.) Regulations 1994 (as amended), which is currently being considered by Natural England. We anticipate clearance of the site will be undertaken during the summer of 2010*".

InterGen Response:

12.2.2 Clarification accepted. This does not affect the conclusions of the ES. It is also noted that The Conservation (Natural Habitats &c) Regulations 1994 have been replaced by the Conservation of Habitats and Species Regulations 2010. In the time that has since elapsed the LG application to Natural England has been approved.

Clarification to ES Section 12.5.27

12.2.3 DP World – London Gateway provide the following clarification:

"*Paragraph 12.5.27 of the GEC ES incorrectly suggests that two small Pipistrelle roosts have been removed under licence as part of the London Gateway Commercial and Business Park development. We wish to clarify no Pipistrelles have been relocated or removed to date. It is to be noted however that roosts identified by the surveys discussed (Thompson Ecology 2008) are not located within the land to be utilised for the purpose of the GEC development*".

InterGen Response:

12.2.4 Clarification accepted. This does not affect the conclusions of the ES.

Clarification to ES Section 12.6.43

12.2.5 DP World – London Gateway provide the following clarification:

"*Paragraph 12.6.43 of the GEC ES suggests that the majority of the reptiles relocated from the London Gateway site have been relocated to receptor sites in Wiltshire. In fact only approximately 35 % of reptiles captured to date have been relocated to Wiltshire with approximately 30 % relocated to receptor sites in the direct vicinity of the London Gateway and the remaining 35 % relocated to other sites within Essex*".

InterGen Response:

12.2.6 Clarification accepted. This does not affect the conclusions of the ES.

12.3 Environment Agency Consultation Response

Clarification on Impact to Thundersley Great Common SSSI

12.3.1 The Environment Agency consultation response stated that:

"*Ecological concern stems from the contradictory assessment of the impact of air pollution on Thundersley Great Common SSSI. In Section 12.1.6 of the ES it is stated that 'impacts of a low magnitude of significance are expected to occur on one Statutory Ecological Designated Site; Thundersley Great Common SSSI to the north east of the GEC site'. However, in the next sentence it is implied that the impact will be more significant: 'However this potentially significant impact prediction is based on a worst case operational mode that is likely to occur'. … Given these contradictory statements it is especially worrying that in Section 12.7.12, it is stated that 'although measures to minimise atmospheric pollution are included within the design of GEC, it has been predicted that there will be a significant adverse impact during the operational phase of GEC. It is important to recognise however that this prediction assumes a worst case operational scenario of the plant operating at 100 per cent load for the 93 per cent of the year that the plant is available. In practice the plant is unlikely to operate for this proportion of the year and the impact is considered to be an over estimate of the true impact that will be encountered during the operation of GEC. As such, no mitigation is proposed for this impact although GECL propose an ongoing dialogue with regard to these impacts to this receptor with the relevant authorities*"'.

InterGen Response:

12.3.2 See response to Natural England Consultation Response above in Section 12.1 which clarifies the impact of air pollution on Thundersley Great Common SSSI. In terms of the ongoing dialogue, see Paragraph 12.1.22 which details InterGen / GECL's Involvement in Management Schemes.

Clarification of ES Section 12.6.29

12.3.3 The Environment Agency consultation response stated that:

"*It is also highlighted in Section 12.6.29 that 'the critical levels for nitrogen deposition are currently being exceeded at four of the ten statutory designated sites included within this assessment. These are Vange and Fobbing Marshes SSSI; Northwood Hill SSSI; Chattenden Woods SSSI and Thundersley Great Common SSSI. Any increase in nitrogen deposition due to the GEC scheme would therefore continue to exceed the critical levels'. It must therefore be inferred that significant pressure is already being placed on the Valued Ecological Receptors (VERs) in the area, the above sites being of national importance for their wildlife. The stated intent to continue to exceed the critical levels ensures that atmospheric pollution will continue to place pressure on these receptors even though the likely increases are small*".

InterGen Response:

12.3.4 See response to Natural England Consultation Response above in Section 12.1 which clarifies the impact of air pollution Vange and Fobbing Marshes SSSI; Northwood Hill SSSI; Chattenden Woods SSSI and Thundersley Great Common SSSI.

13 WATER QUALITY

13.1 Mitigation Measures and Monitoring Programmes [Update to ES Section 13.7 – Flood Risk]

13.1.1 ES Paragraphs 13.7.14 to 13.7.21 noted that GEC will be designed to take into account the flood risks associated with the site. Based on the consultation responses

received, in particular that from the EA, clarification / further information is required surrounding flood risk at the GEC site.

13.1.2 Additionally, further information has become available on the risks of flooding at particular parts of the wider LG Development site.

13.1.3 A Supplementary FRA has been prepared which provides the further information requested by the EA and provides other additional information relating to flood risk at the GEC site.

13.1.4 The Supplementary FRA provides the following clarifications / information:

- Supplementary Information on Breach Analysis;
- Supplementary Information on Topographical Survey and Finished Floor Levels;
- Supplementary Information on Drainage Strategy;
- Supplementary Information on Emergency Planning; and,
- Clarifications on Original Flood Risk Assessment.

14 GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

14.1 Thurrock Council (Contaminated Land) Consultation Response

General Updates / Clarification to ES Section 14

14.1.1 The Thurrock Council (Contaminated Land) consultation response stated that:

"*When the [LG Development] site was ready for re-development as a port, individual land parcels would be investigated and remediated, if necessary, within the proposed park area. This approach of site specific assessment is consistent with current UK legislation (Part IIA Environmental Protection Act 1990). The Environmental Statement correctly proposes an investigation into the soil-gas regime that may exist within the application area. This will be needed in order to protect any future structures on site from the potential of soil-gas ingress and accumulation. Further soil samples will need to be taken and analysed, in addition to those already, taken by ERM Ltd. These results can then be used to produce a site specific risk assessment to be protective of health for construction workers and future site users. Any soil arisings will need to be analysed and validated, as suitable for purpose, before re-use on site*".

Furthermore:

"*The General Assessment Criteria (GAC) for the Gateway Energy Centre should be derived for the end-use of commercial / industrial usage using current UK Guidance. The GAC for soft scaped areas should be derived for residential without gardens*".

Also:

"If *piling is proposed as part of the construction the Environment Agency should be consulted in order to determine a suitable method in order to prevent the potential creation of a pathway allowing the existing contamination to the underlying aquifer*".

InterGen Response:

14.1.2 As specified in Section 14 of the ES, a program of remediation is to be undertaken across the site prior to the re-development works and that the site will be levelled and provided to GECL in a condition that would allow for construction of GEC. Remediation validation reports will be produced as documentation of the works undertaken such that the site can be developed for use as a power generation facility. The General Assessment Criteria adopted for the remediation validation reports will

be derived for the end-use of commercial / industrial usage using current UK Guidance.

14.1.3 Furthermore, it is considered prudent that the site is independently tested prior to the construction works commencing to confirm that the site is in a condition that would allow for construction of GEC. This way any hotspots identified can be addressed.

14.1.4 In terms of piling, InterGen will consult with the Environment Agency as required and seek to agree a suitable method to prevent the creation of pathways, and this will be discussed at a later stage once the indicative piling design is known.

14.2 Environment Agency Consultation Response

Site Waste Management Plan

14.2.1 The Environment Agency consultation response stated that:

"*Waste arising from the development must be re-used, re-cycled or otherwise disposed of in accordance with waste management legislation and in particular the Duty of Care. … Where the development will require the preparation of a Site Waste Management Plan in accordance with the Site Waste Management Plan Regulations 2008, please note that we strongly recommend the use of BRE's SMARTWaste Plan*".

InterGen Response:

14.2.2 The need for a Site Waste Management Plan (SWMP) is discussed in the ES in Paragraphs 14.1.7 and 14.9.6. In line with the Environment Agency consultation response, this will be developed taking account of the information available on:

- http://www.wrap.org.uk;
- http://www.tcpa.org.uk/pages/towards-zero-waste.html; and
- http://www.smartwaste.co.uk (BRE's SMARTWaste Plan).

15 TRAFFIC AND INFRASTRUCTURE

15.1 Thurrock Council (Highways) Consultation Response

Clarification to ES Section 15.6

15.1.1 The Thurrock Council (Highways) consultation response stated that:

"*The operational traffic arising from the GEC is not likely to be material in the context of the wider London Gateway proposals. However, the construction traffic (estimated up to 600 personnel per day) and major maintenance outages (400 temporary staff) are likely to have a material impact*".

InterGen Response:

15.1.2 It is to be noted that, following further discussions with the Highways Agency and Thurrock Council (Highways) a document titled 'Transport Report (TR) (December 2010) TR') has been produced by T.H.E. Consultancy Limited. This document is consistent with the format of a Transport Assessment and provides assessment of peak construction traffic impact (agreed to represent the worse case) upon a number of links and junctions within a study area, which has been agreed with the aforementioned highways authorities. The assessment methodology and parameters considered therein have also been agreed with the highway authorities during scoping discussions.

15.1.3 With regard to the local highway network, The TR identifies that the A1014 links operate significantly within capacity in both the baseline situation and with the addition of GEC peak construction traffic. A13 links operate overcapacity in the baseline situation however the GEC peak construction traffic is insignificant and generally

opposes tidal flows, utilising the less trafficked carriageways during the AM and PM periods. Baseline + GEC peak construction traffic flows at both the site access junction (A1014 / Gate 3) and the A13 / A1014 junction are considered to be suitably accommodated by the existing junction layouts.

Clarification to ES Section 15.9

15.1.4 The Thurrock Council (Highways) consultation response stated that:

"*The [Transport Assessment (TA)] should allow for an agreed level of additional London Gateway operational / construction traffic 'in-combination' with GEC construction traffic. This may highlight the need for the acceleration of some of the earlier London Gateway triggers, in particular the interim signalisation of the A1014 / A13 roundabout*".

InterGen Response:

15.1.5 The GEC constitutes a development in its own right and is not being promoted pursuant to the LG Development Outline Planning Approval (OPA). Therefore GEC and the LG Development are separate in planning terms; the opportunity does not exist to influence or impact upon the triggers set out under the OPA.

15.1.6 Notwithstanding the above, the impact assessment provided within The TR has made provision for LG Development construction traffic, which is added to existing flows, to provide the assessment baseline. In terms of the A13 / A1014 junction the TR indicates that GEC peak construction traffic could correspond with up to 133,057 square metres of LG Development commercial floorspace, or 61,668 square metres of commercial floorspace in combination with the operation of one port berth, before the defined interim improvement scheme is required to be implemented. GEC construction activities are anticipated to peak during early 2014 at which time such levels of corresponding operational LG Development are considered unlikely.

Clarification to ES Section 15.5

15.1.7 The Thurrock Council (Highways) consultation response stated that:

"*The TA accepts that there is a capacity problem on the A13. Albeit the use of Congestion Reference Flows to assess capacity does not adequately highlight the A13 east bound evening peak capacity constraints and queues arising from condensing the A13 (3-lane) into A13 (dual) at the junction with the A128. Neither does it identify the A1014 west bound morning junction capacity constraint and queues at the A13 / A1014 roundabout. If the scope of the TA had been agreed with the local highway authority, it would have focussed the off-site development on these two areas (aside of course from trunk issues). These particular aspects should be considered, including some additional allowance for London Gateway operational / construction traffic in combination with GEC construction traffic. The GEC proposal and any mitigation concerning construction traffic will not bring forward the A13 widening scheme, however it is important to understand what weight is given to the need to manage construction traffic outside of peak hours*".

InterGen Response:

15.1.8 The likely impact upon individual eastbound and westbound links of the A13 as a result of GEC development peak construction traffic is reported within Section 11 of the TR. Additionally sensitivity assessment, which is considered to represent the worse case, is provided within Section 12. It is to be noted that the impact during the PM peak is predominantly in a westbound direction and therefore the eastbound impact in the vicinity of the A128 junction is assessed to be a maximum of 0.39% over baseline flows in the worse case scenario. As agreed during the scoping of the TR, the proportional impact upon the westbound off-slip of the A13 / A1014 is not assessed quantitatively, however the results of qualitative assessment are as

reported within Paragraph 15.1.6 herein. In the worse case (sensitivity) assessment scenario it is estimated that flows on the westbound off slip will increase by a maximum of 44 vehicles in any one hour. Evidence (TRICS Construction Traffic Research Report (February 2008)) suggests however that these trips will predominantly be generated outside of the peak periods.

Update / Clarification to ES Section 15.6

15.1.9 The Thurrock Council (Highways) consultation response stated that:

"*Notwithstanding the above, Tables 15.5, 15.6, 15.7 and 15.8 provide an estimate of the GEC construction traffic impact on the A13 dual and 3-lane section and Table 15.12 includes an in-combination assessment with London Gateway construction traffic. However these tables assume that the bulk of the GEC construction traffic arrives at 6.00-7.00am and leaves at 7.00-8.00pm when background traffic levels are lower and therefore concludes that the GEC traffic will not cause a change in the A13 peak hours. Para 15.6.14 suggests that the "Transport Management Plan" will ensure that the GEC construction traffic will have an insignificant impact on local transport infrastructure. This is not a realistic assumption and I would expect the assessment to show a more representative level of construction traffic using the local road network in peak hours (In-combination with an additional allowance for London Gateway construction / operational traffic). The developers may however wish to show how construction traffic will be controlled within these times, including any parking restrictions on the Manorway [A1014] if this includes exclusion of visitors at certain times*".

InterGen Response:

15.1.10 As discussed within Paragraph 15.1.8, evidence (TRICS Construction Traffic Research Report (CTRR) (February 2008)) exists to suggest that the assumption of construction staff trips occurring before 07:00 and after 19:00 is reasonable. Paragraph 3.1 of the CTRR states:

"*Peak hours for a construction site are generally outside regular 'office' hours, frequently starting at 07:00 and finishing as late as 19:00*"

15.1.11 Notwithstanding the above, Chapter 12 of the TR document provides the results of sensitivity test assessment of impact upon links and junctions within the agreed study area. The sensitivity assessment, the parameters of which have been agreed during scoping of the TR, assumes a worse case and distributes GEC and LG Development construction traffic to the network peak periods.

15.1.12 A Framework Transport Management Plan (FTMP) is provided within Section 14 of the TR. This is intended to provide a framework for detailed Transport Management Plans (TMP's) to be agreed with the relevant local authorities pursuant to the detailed design and appointment of construction contractors but before construction commences. Such detailed measures may reasonably include parking restrictions on The Manorway or some alternative effective control mechanism. Conditions to secure the development of detailed TMP's relating to the Construction and maintenance periods are proposed as follows:

"*The commencement of construction works associated with the development shall not take place until a Construction Transport Management Plan has been submitted to, approved in writing by and deposited with the Local Planning Authority, in consultation with the Highways Agency and the Local Highway Authority. The Construction Traffic Management Plan shall include proposals to control and manage construction traffic using the 'Access route'. For the duration of the construction period of the development the Construction Transport Management Plan will be implemented."*

"The commencement of works during major maintenance outages shall not take place until a Maintenance Traffic Management Plan and Access Route has been submitted to, approved in writing by and deposited with the Local Planning Authority, in consultation with the Highway Agency and the Local Highway Authority."

15.1.13 Additionally a planning condition which restricts GEC construction traffic flows during the peak period is proposed within Paragraph 15.2.14.

Additional Information Request

15.1.14 The Thurrock Council (Highways) consultation response stated that:

"*Using any agreed revised assumptions from above, Gate 3 capacity and safety should be reviewed. In particular considering whether temporary signalisation and a lowered speed limit will be required for the construction phase, (albeit this may not be a problem if all vehicle movements are to / from the west, i.e. no right turns out)*".

InterGen Response:

15.1.15 It is anticipated that all vehicles passing through Gate 3 will arrive / depart from the west arm of the access junction.

15.1.16 The junction is a 'ghost island' junction with a dedicated right turn lane for movements into the Gate 3 access from the west. The turning lane provides a degree of shelter from the main eastbound through-flow of the A1014.

15.1.17 The geometric design standards for a 'ghost island' junction are related to the design speed of the major road, as defined in the Department for Transport 'Design Manual for Roads and Bridges' (DMRB) . The speed limit for the A1014 is 50 mph and the corresponding design speed is 85 kph.

Visibility

15.1.18 Drivers approaching the access junction should be able to see the minor road entry from a distance greater than or equal to the Stopping Sight Distance (SSD) for the design speed of the major road. At 85 kph the SSD is 160 m and the existing junction provides visibility from the A1014 in excess of this requirement.

15.1.19 The requirements for visibility from the minor road entry consider 2 features of the junction.

15.1.20 From a point 15 m back from the main carriageway and along the centre of the minor approach drivers should be able to see the junction form and the peripheral elements of the junction layout clearly in order that the driver is aware of the junction form, possible movement conflicts and possible required action before reaching the major road. The existing junction layout provides the visibility required.

15.1.21 Full visibility to the left and right of the junction, along the major road, is measured at a distance of 9 m back from the nearside edge of the running carriageway of the major road. For a design speed of 85 kph, this distance is 160 m in both directions. The line of vision to the right of the junction lies partially within the major road carriageway and is therefore considered to be tangential to the nearside edge of the major road running carriageway. The junction has a visibility to the left of approximately 160 m and 190 m to the right therefore the junction satisfies this visibility requirement.

Carriageway Widths

15.1.22 The DMRB advises that at ghost island junctions, the through lane in each direction shall not be greater than 3.65 m wide exclusive of hard strips, but shall not be less than 3.0 m. The width of the eastbound through lane is 3.3 m wide and the westbound width is 3.6 m and thus satisfies this requirement.

15.1.23 The desirable width of a ghost island turning lane is 3.5 m and widths of greater than 3.65 m are considered inadvisable by creating a sense of space that could encourage hazardous overtaking. The turning lane width is approximately 3.6 m and thus satisfies this carriageway width requirement. Improved junction safety could be achieved by the doubling of white line markings along the hatching boundary of the junction.

Right Turning Lane Length

15.1.24 The overall length of a right turning lane consists of a turning length and a deceleration length determined by the design speed and gradient of the major road.

15.1.25 For the purposes of this assessment the gradient of the major road approach to the junction is considered to be 0 per cent and, for a design speed of 85 kph, the required deceleration length is 55 m.

15.1.26 The turning length shall be 10 m plus an allowance for reservoir space where capacity calculations indicate that queuing will be likely for a significant period of time.

15.1.27 The capacity calculations detailed in the DMRB show capacity as a function of junction dimensions, including visibility, and the various combinations of turning flows across the junction. The results of capacity assessment of the A1014 / Gate 3 junction is provided within Section 11 of the TR, with sensitivity test assessment results reported within Section 12.

15.1.28 The assessment reported within Section 11 and 12 of the TR assume that all vehicles leave or approach Gate 3 to / from the west. The DMRB Advice Note TA23/81 states that queuing should not occur in the various turning movements in the chosen design year peak hour in 39 out of 40 cases if the maximum Ratio of Flow to Capacity (RFC) is 70 per cent, and that this is the standard for non-urban areas. The assessment results indicate that the likely maximum RFC in the right turn lane is 46.1%. The sensitivity test (worse case) scenario results in a maximum RFC at the right turn lane of 71.2%

15.1.29 It is therefore concluded that the existing Gate 3 access junction accords with all the design standards of the DMRB for major / minor priority junctions and no modifications to the physical junction layout would be required. There is no requirement for signalisation of the junction, and no requirement to alter the speed limit.

Clarification on ES Section 15.6

15.1.30 The Thurrock Council (Highways) consultation response stated that:

"*Tables 15.5 and 15.6 consider the impact on the operational staff traffic on the A13. Para 15.6.30 concludes that the major maintenance outages (400 contracted engineering staff on-site) will be below that level of traffic generated during the construction phase and therefore will similarly not have a material impact. For the reasons given above this is not agreed, albeit it is more likely that a shift system for the maintenance outages could be agreed which avoids peak hours and therefore this may be within the scope of a "Transport Management Plan" to control*".

InterGen Response:

15.1.31 It was agreed at during the scoping discussions which informed the TR that GEC development peak construction represented the worse case impact and as such this was taken forward within the assessment therein. This does not however negate the requirement for suitable mitigation during maintenance periods and therefore a Maintenance Traffic Management Plan (MTMP) is discussed within the FTMP presented within Section 14 of theTR.

15.1.32 To ensure that a suitable detailed MTMP is established and implemented prior to any maintenance outages a suitably worded planning condition is proposed within Paragraph 15.1.12.

15.1.33 The use of an appropriately worded condition (such as that proposed) facilitates the development of the detailed MTMP to be undertaken in the full knowledge of the detailed design of the proposed development and in consultation with the appointed maintenance contractor, thus maximising potential benefits.

15.1.34 Given the specialist nature of maintenance work operatives tend to travel from site to site utilising temporary residence in close proximity. As such, given that operatives tend to reside in groups and share transportation, it is considered that significant opportunity exists for sustainable travel targets within the MTMP to be realised or exceeded.

Clarification on ES Section 15.7

15.1.35 The Thurrock Council (Highways) consultation response stated that:

"*Paragraphs 15.7.2 - 15.7.5 deals with the Transport Management Plan and makes reference that it will incorporate a Green Travel Plan. These paragraphs indicate that the TMP measures will be agreed once the final contractor has been agreed. If the assumptions in the TA are to be accepted, then the TMP should give a basic indication of how the construction traffic will be managed outside peak hours. It should also include a framework travel plan for construction and operational staff*".

InterGen Response:

15.1.36 A pallet of measures, which are considered to be suitable to manage traffic associated with the construction and maintenance of the GEC, are included within the FTMP, which is discussed within Section 14 of the TR. The targets within the FTMP are consistent with the parameters utilised within the principal impact assessment, which is reported within Section 11 of the TR. In relation to operational traffic, given that the GEC will comprise development within the LG Development site, it is the intention for detailed Travel Plans to be submitted which accord with the framework set out within the London Gateway Supplemental Travel Plan (October 2006) and individual Park Travel Plan (2003). It is proposed that this provision is incorporated into a legal agreement to ensure a consistent approach between GEC and LG Travel Plans.

15.1.37 Notwithstanding the above a planning condition which restricts construction traffic during the traditional network peak periods is proposed within Paragraph 15.2.14.

Clarification on ES Section 15.7

15.1.38 The Thurrock Council (Highways) consultation response stated that:

"*Para 15.7.6. – Abnormal Loads – it is unclear whether the delivery of abnormal loads by river has been considered or indeed whether the circulatory carriageway of the current A1014 / A13 roundabout will be adequate to accommodate the anticipated abnormal loads*".

InterGen Response:

15.1.39 Where possible abnormal loads will be transported in accordance with the sustainable transport strategy reported within Section 14.2.1 of the TR. Where transport by road is unavoidable all movements will be undertaken in accordance with the Highways Agencies "Aide memoire for notification requirements for the movement of Abnormal Indivisible Loads or vehicles when not complying with The Road Vehicles (Construction and Use) Regulations 1986", a copy of which is provided as Appendix I to the TR. This protocol will require the details of routes (including geometry) to be considered in consultation with the appropriate authority prior to transport.

Additional Information Request

15.1.40 The Thurrock Council (Highways) consultation response stated that:

"*In allowing London Gateway Port proposals the Secretary of State accepted the deficiencies in vehicle capacity along the A13 and at its junction with the M25 and number of other local transport deficiencies. A scheme of mitigation was developed in conjunction with that permission. If the GEC is permitted and the London Gateway developable land is reduced, it is unclear whether the permitted London Gateway commercial footprint will be reduced corresponding to the reduction in developable site area. Or alternatively, whether the permitted footprint will be condensed into a higher density commercial site. This may have implications for the triggers set out in The London Gateway permission; therefore clarification is required as to whether the GEC proposal will affect the final quantum of development on the London Gateway site*".

InterGen Response:

15.1.41 The implications of the GEC proposals in terms of land use planning are discussed within the Supplemental Planning Statement. The GEC and LG developments are entirely separate planning proposals and therefore the GEC proposals will not impact upon LG Development highway mitigation triggers.

15.1.42 It is to be noted that The LG Development OPA permits the provisions of up to approximately 938,000 square metres of floor area. However, the Secretary of State considered that the inclusion of parts of the development site (Refinery Expansion Land (REL) and Tongue Land) inappropriate on the grounds of visual amenity and subsequently restricted development in these areas to access and associated infrastructure only. When considered alongside established density parameters this had the effect of reducing the floor space deliverable under the OPA. The provision of the GEC on land within the LG Development has the potential to further reduce the total anticipated floor area. However, notwithstanding restrictions on development within the Tongue Land and REL and the implementation of the GEC, sufficient land remains to facilitate development levels far in excess of the highest development floor space trigger, when considered in association with three berths of the port development (the construction of which is now committed). To highlight this point Table 15.1 summarises LG development OPA highway mitigation triggers. It is therefore concluded that the GEC does not have the potential to negatively influence the delivery of secured highway mitigation.

TABLE 15.1: LONDON GATEWAY TRANSPORT MITIGATION TRIGGERS

Highway / Transport Mitigation	*Scheme / Contribution*	*Secured by Condition*	*OPA Trigger (m^2)*	*OPA / HEO Trigger (m^2/Berths)*
Provision of Common User Siding	Scheme	34	400 000	-
Site Access Road – Single Carriageway	Scheme	39, 42	420 000	377 000/1 324 000/2 271 000/3
Site Access Road – Dual Carriageway	Scheme	40, 43	868 000	825 000/1 772 000/2 719 000/3 666 000/4 613 000/5 560 000/6 507 000/7
A13 / A128 Junction	Scheme	48, 52	450 000	407 000/1 390 000/2 373 000/3
A13 / A1014 Junction – Interim	Scheme	49, 53	157 000	100 000/1
A13 / A1014 Junction – Full	Scheme	50, 53	300 000	332 000/1 315 000/2 298 000/3
Sorrells Junction	Scheme	51, 54	200 000	157 000/1
Acoustic Barriers	Scheme	55	210 000	167 000/1
Low Noise Surfacing on A1014	Scheme	56	-	768 000/1 384 000/2
M25 / J30 Junction – Interim	Scheme	93	Before any operational development	Before any operational development
M25 / J30 Junction – Full	Scheme	94, 96	625 000	579 912/1 533 680/2 487 448/3 441 216/4 394 984/5 348 752/6
Local Highway Improvements	Contribution	S106	100 000	57 000/1
A13 Widening Contribution – 1st Installment	Contribution	S106	300 000	257 000/1
A13 Widening Contribution – 2nd Installment	Contribution	S106	350 000	307 000/1 278 000/2 249 000/3
A13 Widening Contribution – 3rd Installment	Contribution	S106	450 000	407 000/1 378 000/2 349 000/3

15.2 Highways Agency Consultation Response

Clarification on ES Section 15.6

15.2.1 The Highways Agency consultation response stated that:

"*The mode split assumes that all people drive to the site and that each car will contain two people. This is a high car share mode split when compared to the census data from the local area (which is less than 1.1). Data from other similar sites should be provided to support this mode split assumption and further information on how a car occupancy of 2 will be achieved*."

15.2.2 The Highways Agency provided a further response to the above:

"*Previous ES chapters of similar reports are not deemed sufficient evidence as to why this assessment should have a car occupancy of 2. There is no explanation in these ES chapters as to how the occupation figures have been derived and no agreement as to why these figures would be correct.*

Actual data based on evidence from the construction phase of operating sites would be an appropriate evidence base. The assessment should be a worst case scenario.

Evidence should be provided as to how this figure will be achieved e.g. parking restrictions, car sharing scheme etc.

The assessment of the impact of the development cannot be agreed / assessed post-consent. Subsequently in order to make a valid assessment of PB's work this detailed information needs to be submitted and agreed with the Highways agency prior to the application being determined."

InterGen Response

15.2.3 PB's experience of car share ratio during the construction phase of other similar power station developments is reflected within Section 9.9 of the TR. The car share ratios experienced at the four developments cited range from 1.4 to 2.5 persons / car.

15.2.4 It is acknowledged that the evidence base in support of an anticipated car share ratio is less than comprehensive and that construction operations are inherently uncertain. Therefore, in the interests of a robust assessment, Section 12 of the TRpresents the results of sensitivity assessment, which is based upon revised parameters including a car share ratio of 1.4 persons / vehicle. The sensitivity test parameters, which are considered to represent the worse case, were agreed with the HA and LHA during the scoping of the TR. The sensitivity test results indicate that the impact of GEC development peak construction traffic is not significant.

15.2.5 Notwithstanding the sensitivity assessment provided within Section 12, Section 14 of the TR presents a Framework Traffic Management Plan (FTMP) which includes sustainable transport targets, including a car share ratio of 2 persons / vehicle. A pallet of measures considered suitable to achieve the stated targets, including parking management and a car share scheme, is also presented and discussed.

Clarification on ES Section 15.6

15.2.6 The Highways Agency consultation response stated that:

"*The number of HGVs accessing the site on a daily basis has been provided, but there is no data demonstrating where this figure has come from. There is also further ambiguity as to whether these are one-way or two-way trips. Further information regarding how the number of HGVs has been estimated should be included. This information should be based on the volume of material being removed / introduced to the site. Information regarding the phasing of the construction should also be included.*"

InterGen Response

15.2.7 The level of GEC development peak construction traffic and the phasing thereof is presented and discussed within Section 9 of the TR. The related assessment methodology, which was agreed with the HA and LHA during scoping of the TR is also presented.

Clarification on ES Section 15.6

15.2.8 The Highways Agency consultation response stated that:

"*Explicit shift timings have not been supplied for construction workers. The table suggests that workers arrive at the site at 7:00am and leave at 19:00, with no inbound or outbound trips at any other time during the day. The information in the table should be clarified, by demonstrating which trips are HGVs and which are workers and also whether any other trips are expected (e.g. LGVs). The shift times of the workers needs to be clarified, as should the days of operation (e.g. Monday to Saturday). Will there be only one 12-hour shift for all workers?*"

InterGen Response

15.2.9 Details of shift patterns, the resulting number and phasing of construction workers trips and the number and phasing of trips relating to the movement of construction materials and equipment are provided within Section 9 of the TR.

15.2.10 For clarification, there will be no shift work during construction of the GEC; the construction workforce will typically work 12 hour days. Initially, and until the buildings are closed and capable of providing an 'indoor working environment', construction work will only take place during Monday to Saturdays 07:00 – 19:00 hours.

15.2.11 The 'indoor working environment' will potentially allow some night working, however it is anticipated that the number of staff on-site will be significantly less than the figures quoted in the ES. Given the reduced demand on the local road network at night, it is considered that construction vehicles accessing the site will have an insignificant impact.

15.2.12 No work on any Sunday or Bank Holiday will be undertaken, unless such work is associated with an emergency. Should a need arise, due to technical constraints or similar, with regard to carrying out certain construction work outside the time indicated above (i.e. 07:00 – 19:00 hours), prior written approval from the HA and LHA will be sought, as appropriate.

Highways Agency Response

15.2.13 The Highways Agency provided a further response to the above:

"*The construction worker shift times may be subject to a condition, therefore PB should ensure they are correct and adhered to. The word 'typical' implies that these hours may change or vary*."

InterGen Response:

15.2.14 GECL is proposing that, should the Secretary of State be minded to grant planning permission, the following condition be applied:

15.2.15 No construction traffic associated with the Development shall access the site during the following hours:

- Monday to Saturday 07:00 – 08:00
- Monday to Saturday 17:00 – 18:00

No heavy commercial vehicles associated with the construction of the Development shall enter or leave the site on any Sunday or Bank Holiday or on any other day except between the following hours:

- Monday to Friday 10:00 – 16:00
- Saturday 10:00 – 16:00

Unless such movement is associated with an emergency or is carried out with the prior written approval of the Local Planning Authority.

Clarification on ES Section 15

15.2.16 The Highways Agency consultation response stated that:

"*A number of links have been assessed along the A13 and A1014, although the exact routes taken by workers and HGVs are not clear. Only a small section of the Strategic Road Network (SRN) has been assessed, which is the A13 between the junction with A1012 and A1089.*

No traffic impact on the M25 has been considered. Junction 30 of the M25 is a busy section of the motorway, with Lakeside shopping centre and the Dartford Tunnel / Dartford Bridge located nearby. · The HA response to the Thurrock Local Plan notes that both junction 30 and 31 "currently operate over capacity for a substantial part of the day.

The HA response to the Thurrock Plan also notes that there will be widening of the M25 between junction 27 and 30, which is due to be completed in 2012. This may overlap with the construction phase of the new development.

The origins and destinations or routing of the HGVs and workers needs to be considered and included in the assessment. The direction which the traffic enters / leaves the SRN also needs to be considered and included in the assessment. The impact that the construction traffic will have on the A13 up to and including the junction with the M25 junction should be assessed.

Construction traffic may need to be restricted at certain times of the year, for example during the Olympics when Lakeside Shopping Centre is being used as a 'park and ride' site. Further information should be provided on estimated traffic flows during this period."

15.2.17 The Highways Agency provided a further response to the above:

"*The assessment of the impact of the development cannot be agreed / assessed post-consent. Subsequently in order to make a valid assessment of PB's work this detailed information [HGV routes] needs to be submitted prior to the application being determined.*

There is no explanation as to why the A13 is considered the most sensitive part of the route. No baseline assessment has been conducted to confirm this assumption. As mentioned previously Junction 30 of the M25 needs to be assessed as this is likely to be one of the most sensitive areas on the surrounding strategic road network.

No assessment of the roads has been taken to acknowledge when the peak traffic is on the network, nor whether the road network is under stress outside of peak times. For example, if construction traffic is to occur on a Saturday, the peak times may well not be the same as the conventional weekday peaks, particularly considering local retail activities such as the Lakeside Shopping Centre.

Additionally details of the Phasing are required to ensure that the development's impact in connection with the Olympic Games is appropriately managed.

What [is the staff distribution] based on, is it number of hotels in the area?

There is no indication as to why it is assumed that 90% of construction workers should be based locally, 90% appears high, a number of skilled workers will presumably need to come from further away and a large proportion of these workers will probably come from London. Further evidence is required."

InterGen Response:

15.2.18 Sections 11 and 12 of the TR provides additional extensive capacity impact assessment in relation to the wider strategic trunk road network, including the M25 Junction 30. The distribution of construction workers trips onto the road network, which is discussed within Section 9.11 of the TR and represented diagrammatically within Appendix F of the TR, is based upon an employee distribution trip model established as part of the assessment of the LG Development. Such distribution, which no longer reflects the assumption that 90% of construction workers would be based locally, has been agreed with the LHA and HA during scoping of the TR. Distribution of HGV trips is represented diagrammatically within Appendix G of the TR.

15.2.19 The assessment provided within Sections 11 and 12 of the TR considers impacts on all links and some junctions over a typical 24-hour working day. No direct assessment of Saturday peak period is provided however it is noted that on average flows are approximately 23% lower on Saturdays in comparison with the assessed mean Monday to Friday flows. The assessment against mean Monday to Friday baseline flows is therefore considered to represent the worse case scenario.

15.2.20 The construction of the proposed development is anticipated to commence during the summer of 2012 at the earliest. Widening works on the M25 between Junctions 27 and 30 are programmed to be completed before this date. The 2012 Olympics may correspond with the early stages of construction however, as indicated within Section 9.5 of the TR; traffic generation is anticipated to be negligible during this period.

Clarification on ES Section 15.7

15.2.21 The Highways Agency consultation response stated that:

"*The number of parking spaces at the site during the construction phase has not been provided. The number of car parking spaces proposed should be stated or be provided at a later stage, to be secured by condition. The car parking provision should be related to staff trip generation levels*."

InterGen Response:

15.2.22 The Framework Transport Management Plan provided within Section 14 of the TR includes details of a proposed Parking Management Strategy, which will be implemented on site with the intention of providing a demand management tool. Parking allocation will be controlled via Transport Manager, with operatives first required to demonstrate that travel by alternate sustainable modes is not viable. All operatives wishing to obtain a parking permit will also be required to register their details with the car share database. The strategy envisages a maximum parking allocation during peak construction activity of approximately 300 spaces which is consistent with mode share and car share targets.

Clarification on ES Section 15

15.2.23 The Highways Agency consultation response stated that:

"*The ES makes no reference to any efforts to transport goods by either sea or rail, which would be welcomed by the Highways Agency. The applicant should explore opportunities for transporting goods by sea and rail and include this in the assessment. The HA will need to understand the routes, measurements and exact frequency of the abnormal loads. A Transport Management Plan should be prepared*

to demonstrate how all construction trips (people, freight, waste removal and abnormal loads) will be managed. "

InterGen Response:

15.2.24 The Framework Transport Management Plan provided within Section 14 of the TR includes details of a proposed Sustainable Transport Strategy, which sets out a hierarchy for the provision of materials via sustainable means and, where highway transport is unavoidable, sets a strategy for efficient transportation.

15.2.25 The transportation of abnormal loads is also discussed within Section 14 of the TR. It is proposed that, where possible, abnormal loads will be transported in accordance with the proposed Sustainable Transport Strategy however, where transport via the highway network is unavoidable, contractors will be required to adhere to the protocols set out in the Highways Agencies "Aide Memoire for notification requirements for the movement of Abnormal Indivisible Loads or vehicles when not complying with The Road Vehicles (Construction and Use) Regulations 1986".

15.3 Essex County Fire and Rescue Service Consultation Response

Fire Service Access

15.3.1 The Essex County Fire and Rescue Service consultation response stated that:

"It is not possible to ascertain at this stage if access for Fire Service purposes is satisfactory."

InterGen Response:

15.3.2 Access arrangements will be discussed fully with the Essex County Fire and Rescue Service and other relevant authorities and more detailed observations on access and facilities for the Fire Service will be considered at the Building Regulation consultation stage of the development of GEC.

16 CULTURAL HERITAGE

16.1 Essex County Council Consultation Response – Additional Cultural Heritage Information

ES Section 16 – Cultural Heritage

16.1.1 The Essex County Council consultation response stated that:

"*The present desk based assessment fails to use the extensive archaeological work previously undertaken by Oxford Archaeology Unit on the London Gateway Development Area. … In the first instance the work undertaken for the EIA needs to be brought up to an appropriate archaeological standard to include all of the archaeological investigations undertaken by the DP World Archaeologists. This information will allow a detailed assessment to be produced defining the archaeological implications of the proposed development and allow appropriate mitigation strategies to be agreed*".

InterGen Response:

16.1.2 A cultural heritage section and an archaeological Desk Based Assessment (DBA) were submitted as part of the GEC Section 36 Consent application in February 2010. In response to the above comment, the additional information provided here analyses the three reports produced by Oxford Archaeology Unit (OAU) for the LG Development site. These reports are as follows:

1) A Geophysical Assessment of Sub-Surface Stratigraphy at the Shell Haven Site – April 2009

2) Archaeological Investigation Report – London Gateway Access Road – May 2010

3) Environmental Statement – London Gateway Access Road – June 2010

16.1.3 This additional information will be summarised with specific reference to the proposed development of GEC.

Geophysical Assessment of Sub-Surface Stratigraphy at the Shell Haven Site – April 2009

16.1.4 Desk based studies and non-intrusive investigations, as part of previous Environmental Statements for the LG Development site have indicated that the development of any infrastructure at the site has the potential to impact on archaeological deposits. However, much of the archaeological record at the site is beyond the scope of conventional survey and excavation techniques, such as field walking and aerial photography, due to the excessive depths of Holocene alluvial deposits which bury and mask potential sites. Additionally, the deep alluvial conditions are more likely than dry land deposits to harbour large quantities of organic remains.

16.1.5 The aim of the geophysical assessment of the LG Development site was therefore to use an electrical resistivity survey to assess the potential of the deep alluvial deposits on the floodplain to house archaeological deposits and to characterise differences in underlying topography and lithology (e.g. made ground, alluvial deposits, basal sands and gravels and bedrock).

16.1.6 Once the differences in lithological units had been assessed, a better understanding of the timing of floodplain inundation could be gained and hence an idea of the pattern of occupation across the LG Development site in the past.

16.1.7 The resistivity survey involved a number of east-west transects which covered approximately 95 % of the LG Development site. The results of the transects were then compared to borehole logs from 21 boreholes which had been drilled across the site in order to gain a perspective of depth of materials and to check geological changes suggested by the resistivity survey to those recorded in the field. Detailed methods on the equipment used and data processing methods are included within the original OAU Report (OAU, 2009). The position of the transects is shown in Figure 1 of the original OAU Report.

16.1.8 With specific reference to the GEC location, transects 50, 482, 64, 62 and 75 were taken across the GEC site.

16.1.9 The resistivity survey found four major depth-defined zones across the GEC site including: made ground (up to 8 m in depth); alluvial deposits (peats, clays and silts – up to 15 m in depth); basal gravel units; and, bedrock. These units were broadly in agreement with those found during intrusive investigations at the site, although there were some significant differences noted where records from boreholes had been extrapolated.

16.1.10 The original OAU Report states that:

"*The survey conducted at the site has been successful in allowing two major surfaces (bedrock and gravel) to be modelled. This exercise has significantly enhanced the understanding of the buried topography at the site and considerable differences are noted between the previous (borehole based) gravel surface models and the new integrated borehole and electrically derived model (Shown in Figure 18 of the OAU report). The modelling of the gravel surface topography allows a first order estimation of the impact of Holocene alluvial deposition across the surface to be made. Using the age estimates provided by Bates and Whittaker (2004) for the onset of sediment accumulation on the gravel surface, it is likely that much of the Holocene topographic*

template was inundated by 6000 B.P. Consequently, for much of the site dry ground contexts were only present during the Mesolithic. Dry ground context for late prehistory are restricted to the extreme western margins of the site".

16.1.11 Based on the evidence above, as well as previous reports (e.g. London Gateway – Environmental Statement for Outline Planning Application (2008)) it is suggested that evidence of human settlement as well as wetland and marine economic activity will be mainly found concentrated around the interface between dry ground and wetland landscapes – including the edge of the gravel terrace (towards the west of the LG Development site) and on islands of drier ground within the marsh.

16.1.12 Specifically with reference to the proposed GEC site, the surveys indicate that bedrock is indicated to be between -33 to -23 m below OD (Figure 10 in the original OAU Report) and gravel deposits are indicated to be between -10 to -15 m below OD (Figure 11 of the original OAU Report).

16.1.13 Estimates suggest that due to the depth of gravel surface, the majority of the GEC site would have been inundated throughout prehistory, until the reclamation of the site in the 17th Century. Whilst, it is difficult to ascertain what archaeological potential the GEC site has, it is likely that human occupation was focussed on the raised gravel beds. Therefore the deep alluvial deposits present are likely to house scattered deposits of organic remains.

Archaeological Investigation Report – London Gateway Access Road – May 2010 and Environmental Statement – London Gateway Access Road – June 2010

16.1.14 A new main access road has been proposed for the LG Development. This access road will be a new dual carriageway which will link the container port and commercial park, with Sorrell Roundabout on the A1014 (The Manorway). Proposals to re-align the access road corridor emerged in 2008 / 9 and the re-alignment have been the subject of an updated Environmental Impact Assessment and further intrusive investigation, as requested by Thurrock Council.

16.1.15 The location of the re-aligned access road is shown in Figure 1 of the original 'Archaeological Investigation Report – London Gateway Access Road' by OAU (May 2010) and a more detailed description of the access road (e.g. length, width and depth of material) is provided in the 'Environmental Statement – London Gateway Access Road' (June 2010).

16.1.16 As part of the further intrusive investigation at the access road site, a total of 36 trial trenches were excavated. The location of these trenches was agreed with Essex County Council and English Heritage and is based on previous desk based work and non intrusive investigations undertaken at the site (e.g. magnetometer surveys).

16.1.17 These previous surveys had identified limited potential for archaeological remains within the access road corridor. However, the trenches were excavated to investigate a small number of anomalies and also to gain an understanding of archaeological potential of both the floodplain deposits and gravel terrace.

16.1.18 Although the site of the proposed new access road is a relatively significant distance from the proposed GEC site, the results of these investigations will nevertheless be useful to infer the type of deposits which may be present and the potential for archaeological remains at the GEC site.

16.1.19 Overall, the results of these investigations revealed few finds of archaeological significance. These are described below with reference to trench numbers. A plan showing all trenches is shown in Figure 2 of the original OAU Report.

- Trenches 1 and 2, located on the gravel deposits, revealed clusters of undated features including ditches and gullies. One of the ditches contained a clay pipe of post medieval origin.

- Trenches 6 and 9, also on the gravel deposits, revealed a series of ditches, none of which contained any artefacts or dating evidence.
- Trench 10, also on the gravel deposits, revealed a ditch containing animal bone, tile and 16th / 17th Century pottery.
- Trench 11, also on the gravel deposits, contained three ditches, a posthole and a gully, none of which contained artefacts or dateable evidence.
- Trench 15, on the boundary between gravel and alluvial deposits, contained a single ditch containing shards of post medieval tile.
- Trench 20, in the alluvial deposits, contained a series of features containing medieval and post-medieval pottery.
- Trench 21, also in alluvial deposits, recorded 3 ditches and a posthole with small amount of animal and fish bone and burn stone as well as a large amount of 13th / 14th Century pottery.
- Trench 26 contained 13th / 14th Century pottery.
- Trench 28 contained a selection of Iron Age pottery.

16.1.20 The results of the intrusive investigations on the access road site indicate that both the alluvial deposits and the gravel bed deposits have the potential of harbouring archaeological findspots. Despite this, in a total of 36 trial trenches, excavated over a large area, no significant archaeological remains were discovered, particularly in the alluvial deposits.

16.1.21 No trenches were excavated on the floodplain deposits, on which the GEC site is proposed. It is likely that any archaeological remains within these deposits are buried at significant depth.

Conclusions

16.1.22 These three reports suggest that the GEC site is situated on a significant depth of floodplain alluvial deposits, which would have been flooded throughout most of prehistory until a tidal wall was constructed in the 17th Century.

16.1.23 Following the construction of the sea wall, in the 20th Century much of the GEC site was covered by the Shell Haven Oil site.

16.1.24 The potential for archaeology at the GEC site is therefore considered to be minimal, and furthermore it is considered that the new information presented above does not change the assessment and conclusions of Section 16 of the ES.

Cultural Heritage – Further Investigations

16.1.25 The Essex County Council consultation response recommended that:

"*No development or preliminary ground works of any kind areas shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant, and approved by the planning authority*".

InterGen Response:

16.1.26 With reference to the information provided in Section 16 of Volume 1 of the ES, the archaeological DBA and the above information the potential for archaeology at the GEC site is considered to be minimal. This is related to the previous heavy development of the GEC site, which has required intrusive investigations, sub-surface reconstructions, geophysical assessments and site walkover surveys to be undertaken.

16.1.27 However, it is noted that Essex County Council recommended further investigation of the GEC site prior to development. This investigation will need to be informed by the ongoing geo-archaeological sub-surface deposit modelling which is being undertaken for the wider LG Development site.

16.1.28 Furthermore, any investigations are likely to include trial trenching, similar to that already undertaken on the proposed LG Development access road corridor. The position of these trenches should be referenced to the ongoing geo-archaeological model at the wider LG Development site.

16.1.29 Therefore, in line with Section 16.8 of the ES, (if required) a programme of archaeological works will be developed in consultation with Essex County Council (on behalf of Thurrock Council) which will form part of the planning conditions for GEC.

17 SOCIO-ECONOMICS

17.1 Additional Information on Socio-Economics [Updates to ES Sections 17.5, 17.6 and 17.7]

Overview

17.1.1 Following submission of the Section 36 Consent application for GEC, further discussions with Thurrock Council identified a number of issues relating to the socio-economic impact of GEC. These issues were:

- Employment of local people by GECL;
- Procurement of services from local communities / businesses;
- Support for local communities; and
- Making heat available to occupiers of the LG Development.

17.1.2 Thurrock Council sought further information / clarification on the support planned by GECL for local communities and mitigation measures. Information on these issues is provided below.

Support for Local Communities

17.1.3 Section 17.5 of ES Volume 1 provided the baseline conditions for Thurrock in comparison with the East of England and the rest of Great Britain. Information was taken from a range of available data sources, including the NOMIS Website (Official Market Labour Statistics)[5]. Of particular relevance to this sub-Section are:

- The percentage of people within Thurrock qualified to National Vocational Qualification (NVQ) Level 3 is significantly lower than both the East of England and the rest of Great Britain;
- The percentage of people within Thurrock with no qualifications is significantly higher than both the East of England and the rest of Great Britain;
- The percentage of people within Thurrock who were economically active was slightly lower than the East of England, but slightly higher than the rest of Great Britain; and
- The percentage of people within Thurrock who were unemployed in 2009 was slightly higher than the East of England and the rest of Great Britain.

[5] https://www.nomisweb.co.uk *(Accessed / Data Retrieved August 2009)*

17.1.4 Further to the above, the discussion below provides additional baseline information pertaining to Thurrock. This draws on the results presented in '*The English Indices of Deprivation 2007 – Thurrock Analysis*' (January 2008)[6].

17.1.5 '*The English Indices of Deprivation 2007 – Thurrock Analysis*' presents the ranking of LSOA (Lower Level Super Output Areas)[7] based on their IMD2007 (Index of Multiple Deprivation measured in 2007). The IMD2007 is a measure of 'multiple deprivation' which is based on the idea of distinct dimensions of deprivation which can be recognised and measured separately. These are combined to provide a measure of 'multiple deprivation'.

17.1.6 The IMD2007 reported in '*The English Indices of Deprivation 2007 – Thurrock Analysis*' are made up of seven domains (and two supplementary domains), which are then combined to provide the measure of 'multiple deprivation'. The seven domains are: income deprivation; employment deprivation; health deprivation and disability; education skills and training deprivation; barriers to housing and services deprivation; living environment deprivation; and crime. The two supplementary domains are: income deprivation affecting children; and, income deprivation affecting older people.

17.1.7 The IMD2007 reports at LSOA[8], Ward and Local Authority level. Based on the findings of the '*The English Indices of Deprivation 2007 – Thurrock Analysis*' it is concluded that:

- Thurrock remains less deprived than average using the IMD2007 overall measure, and indeed has improved from Position 122 in 2004 to Position 131 in 2007 (out of 354 authorities)[9].
- In terms of LSOA, over half of the LSOAs (58 per cent) in Thurrock are below the median level, meaning that they are more deprived than average.
    - Five LSOAs fall within the top 10 per cent most deprived areas in England (these are Grays Riverside, Tilbury St. Chads (6010), Tilbury Riverside and Thurrock Park, Tilbury St. Chads (6007) and Belhus);
    - 12 LSOAs are within the top 20 per cent most deprived areas in England;
    - The most deprived LSOA in Thurrock is Grays Riverside which is ranked as the 930 most deprived in England (out of 32 454); and
    - Highlighted of particular concern is that 21 LSOAs in Thurrock (which equates to 22 per cent of the LSOAs in Thurrock) are in the top 10 per cent of the most deprived areas in the Education domain. 48 LSOAs (which equates to 51 per cent) are in the worst quartile in the Education domain.
- At Ward level, the most deprived are Belhus, Chadwell St Mary, Tilbury Riverside and Thurrock Park, Tilbury St. Chads, and West Thurrock and South Stifford.

17.1.8 There may therefore be additional socio-economic benefits which could be associated with the development of GEC where GECL could engage with the local communities. This engagement, which may be tailored more specifically to educational and skills benefits, could include:

[6] http://www.thurrock.gov.uk/i-know/profile/pdf/rm_deprivation_200801.pdf
[7] *LSOA are geographical units made up of Census output areas for collecting, aggregating and reporting statistics. They contain an average of 1500 people and nest within wards.*
[8] *There are 95 LSOAs in Thurrock.*
[9] *Move in ranking shows that Thurrock has become less deprived (Higher Positions are more deprived).*

- Visits to GEC (or the existing CECL Power Station) for members of the local community;
- Linking with local schools / colleges to provide educational engagement in energy related knowledge; and
- Providing role modelling / mentoring or outreach programmes.

Mitigation Measures

17.1.9 The conclusions of ES Section 17.7 were that:

"*The operation of GEC will create permanent employment opportunities and, wherever possible, establish strong local service links which would last for the operating lifetime of GEC. There are no negative impacts expected on any other aspect of the local economy.*

No mitigation measures or monitoring programmes are considered to be necessary due to the high positive socio-economic impact of GEC"

17.1.10 These conclusions remain true, but there are additional positive socio-economic impacts which could be highlighted. In addition to those measures included in the above sub-Section [Support for Local Communities], GECL is committed to the delivery of Combined Heat and Power (CHP) which will be included within the development of GEC. In selecting the GEC site, InterGen considered CHP opportunities from the outset which offers advantages to both the LG Development and other new businesses. In particular, the CHP opportunities offered by GEC will afford choice, thus helping to maximise the attractiveness of the local area to prospective tenants of the LG Development by providing access to low carbon heating.

17.1.11 Further information on the CHP opportunities associated with GEC is included in the CHP Assessment and Supplementary CHP Assessment submitted in support of the Section 36 Consent application.

18 SUMMARY OF MITIGATION AND MONITORING

No changes / clarification / supplementary information required.

SECTION 19

INDIRECT / SECONDARY AND CUMULATIVE IMPACTS

19 INDIRECT / SECONDARY AND CUMULATIVE IMPACTS

19.1 Introduction

19.1.1 Following submission of the ES, and consultation on the application, a number of Consultee Responses have commented on the high level treatment of the impacts of the Gas and Grid Infrastructure Connections, the potential CHP Infrastructure Connections and the Cumulative Impacts of GEC with the LG Development. This Section has been prepared to provide further information in order to allow the indirect / secondary and cumulative effects of the Gas and Grid Infrastructure Connections and the potential CHP Infrastructure Connections to be assessed. Further information has also been provided to allow the cumulative effects of GEC and the LG Development to be assessed.

19.1.2 Updated details of the Gas and Grid Infrastructure Connections are provided in Section 6.1, which notes that there still remains a high level of uncertainty surrounding the routing and connection options. Therefore in this Section, in order to allow likely significant effects to be assessed a worst case scenario is considered (e.g. in terms of the HV electricity connection, an entirely new overhead line is constructed).

19.1.3 In addition, the likely significant environmental effects in respect of Carbon Capture Readiness (CCR) and Carbon Capture and Storage (CCS) are assessed. However, it should be noted that due to the likely delay in the implementation of CCS there is a greater level of uncertainty associated with the development details. Such details as are known at this stage are set out in the CCR Feasibility Study. In addition, as discussed previously in Section 8.3, the DECC November 2009 Guidance states that the reasons that an EIA is not required for CCS at the CCR are because "given the inevitable uncertainty about the precise route [for the CO2 pipeline] and what might by CCS stage in the future be the safety and environmental requirements, we do not envisage any formal environmental impact assessment (EIA) being undertaken. This will however need to be done when an operator wishes to fit CCS to the plant".

19.2 Impacts Considered

19.2.1 This Section assesses the likely indirect / secondary and cumulative environmental impacts associated with GEC.

19.2.2 Indirect / secondary environmental impacts are impacts on the environment which are not a direct consequence of a proposed development, and are often produced far away from the site of a proposed development (e.g. when they are a consequence on an ancillary activity rather than a main development activity).

19.2.3 Cumulative environmental impacts can be either:

- ***Type 1 Cumulative Impacts; or***
  These are combined effects of different types of impact on a single receptor. For example: noise, dust and visual impacts resulting from construction and operation of the development and other planned developments.
- ***Type 2 Cumulative Impacts.***
  These are impacts from other planned developments considered together with the proposed development which individually may be insignificant, but when considered together could form a significant cumulative impact. For example: combined traffic impacts from two or more proposed developments.

19.2.4 It should be noted that there is an inherent uncertainty in the range of likely cumulative impacts which may arise, although the assessment in this document seeks to identify the main likely impacts in a qualitative manner.

19.2.5 For each of the identified indirect / secondary or cumulative impact, an assessment has been undertaken to determine when the impact is significant or not significant based on the methodologies outlined in the ES.

19.3 Description of Associated Infrastructure and Developments

19.3.1 This Section provides a description of the associated infrastructure and developments which will be considered.

Infrastructure Connections

19.3.2 In order for GEC to be operational, two new associated infrastructure connections will be required, for which updated details have been provided in Section 6.1. These have the potential to give rise to indirect / secondary and cumulative environmental impacts. These comprise:

- A new underground gas pipeline and associated AGI to connect GEC to the National Grid National Transmission System (NTaS); and
- A new underground cable / over ground transmission line / combination of both to connect to the High Voltage (HV) National Grid System, via a new substation to be consented, constructed and operated by National Grid.

19.3.3 In addition, the proposed GEC may also require the installation of an on site CHP plant and off site CHP connections to the LG Development / other customers in the area. Further details on the CHP opportunities are presented in the CHP Assessment and the Supplementary CHP Assessment.

19.3.4 It should be noted that as the preferred routes of the various infrastructure connections detailed above are still to be confirmed (and are currently the subject of ongoing assessment), it is not possible to detail the potential environment impacts in a specific manner. However, information relating to the potential environmental impacts which may arise due to the construction and operation of the infrastructure connections is provided so as to allow the likely significant effects to be assessed. In order to ensure that the likely significant effects are assessed, where uncertainties exist, the potential worst case indirect / secondary and cumulative impacts are assessed (e.g. in terms of the HV electricity connection, it is assumed that an entirely new overhead line is constructed).

19.3.5 In addition, consents (in the form of wayleaves / leases / etc) will be sought from every land owner / occupier of the land crossed by the infrastructure connections. This will permit the developer to enter onto land in order to construct, operate and maintain the infrastructure connections.

<u>Gas Connection</u>

19.3.6 The natural gas used as the fuel will most likely be taken from a new pipeline to be constructed from the NTaS No. 5 Feeder pipeline. Details of the most likely connection option are provided in Section 6.1.

19.3.7 The quality of the natural gas will be the same as that used in domestic properties and will be supplied to a flanged terminal point at a pressure in the range of approximately 30 to 75 bar(g). There will be gas pressure reduction / and potential for compression facilities on the GEC site to regulate the pressure of the incoming gas supply to that required by the gas turbines, which are yet to be selected.

19.3.8 With the exception of temperature and pressure regulation, the natural gas will not be treated on site and accordingly natural gas will not be stored on the GEC site.

Description of Construction of the Gas Connection

19.3.9 Construction of the gas pipeline is likely to take place within a temporary fenced strip of land, called the 'working width'. The gas pipeline working width is required to facilitate safe working.

19.3.10 It is likely that the working width will be approximately 26 m along the length of the gas pipeline route, although it may be necessary to increase / decrease the working width at specific points. For example, adjacent to special crossings it may be necessary to increase the working width to provide additional working areas and storage for materials or special plant. Alternatively, adjacent to areas of conservation or existing services it may be necessary to decrease the working width.

19.3.11 Access to the working width will be at defined points along the gas pipeline route, and these points will be agreed with the local planning authority and land owners / occupiers. These points will be carefully controlled and signposted, and gates / stiles will be incorporated into the temporary fences wherever access must be maintained (e.g. for public rights of way, farm tracks or for livestock movements).

19.3.12 Where appropriate, access across watercourses will be achieved by the installation of temporary pipes (flumes) within the channel which will then be ramped over to create a continuous running track for construction vehicles, yet still allow a continuous flow of water within the channel of the watercourse. Where flumes are not appropriate, alternative crossing methods will be discussed with the relevant consultees, including the Environment Agency (EA) and Natural England (NE).

19.3.13 Aside from the special crossings, it is expected that the pipeline will be constructed using standard open-cut cross-country pipeline construction techniques. The main activities will include: topsoil stripping; pipe stringing (the process of laying the pipe end to end) and welding; trench excavation; pipe laying (positioning of the welded pipe into the trench); back filling; pressure testing, drying and pipeline pigging operations; and re-instatement of the land. A more full description of these activities is given below.

19.3.14 Topsoil will be stripped within the working width along the pipeline route and a running track will be established to allow the movement of machinery. The pipeline will be constructed from lengths of steel pipe approximately 12 m long. These are normally off-loaded with cranes at road crossings, transported along the working width and laid out on timbers adjacent to the trench line in preparation for welding and lowering into the trench. The individual lengths of pipe are then welded together to form the pipeline which is then subjected to inspection. Once the welds are accepted, a standard coating is applied on site. The pipeline coating is the tested electronically along the whole of its length to detect damage or other defects, which if present would be repaired and before re-testing.

19.3.15 The trench will be dug with mechanical excavators to a depth sufficient to allow the pipeline a minimum cover of 1.2 m and a width 30 to 40 cm wider than the diameter of the pipe. The pipeline is then lowered into the excavated trench using side boom tractors or equivalent plant. The trench is then back filled with the excavated sub-soil, with care being taken to avoid damage to the pipeline coating. Following the satisfactory back filling of the trench to sub-soil level, the construction drainage is installed to ensure that any surface groundwater is suitably removed from the area of the pipeline and to in-instate the existing drainage system.

19.3.16 Once laid, the pipeline is cleaned internally using a pipeline integrity gauge which is driven through the pipe by compressed air and / or water. A Pipeline Internal Gauge (PIG) is then driven through to check the internal diameter of the pipeline, and the whole system is pressure tested.

19.3.17 Once the pipeline has been constructed and installed, a post-construction CIP survey will be conducted to confirm the satisfactory operation of the pipeline cathodic protection system. This survey will be supplemented by a DCVG survey to locate any coating defects on the buried pipeline.

19.3.18 Within a reasonable period of time after pipeline operation has begun, an intelligent PIG survey will be conducted to provide baseline date of the pipeline integrity and condition, and verify that it is fit for continued operation.

Grid Connection

19.3.19 The electricity generated at GEC will most likely be dispatched to the HV National Grid system via a new HV underground cable, an overhead line or a combination of both to a new substation to be constructed by National Grid. Details of the most likely connection options are provided in Section 6.1. It is noted that these routes and substation locations are the subject of on going studies, with National Grid being responsible for locating and permitting the new substation and it's connection to the existing Rayleigh – Tilbury overhead electrical transmission line.

19.3.20 In light of the uncertainties surrounding the connection options, and in order to ensure that the likely significant effects are assessed, a worst case scenario is adopted (e.g. an entirely new overhead line is assessed).

Description of Construction of the Grid Connection

19.3.21 In order to construct the over ground grid connection, it will be necessary to construct new access tracks to each tower site. Accordingly, access for construction would be gained wherever feasible from existing main roads along the route of the over ground transmission line, with tracks being provided (wherever necessary) from the road network to the tower sites. The majority of the new tracks that would be needed would be temporary. However, there is the possibility that some may be retained.

19.3.22 Following construction of the access tracks, the foundations for each tower would be installed. At winch sites (tower sites which would be used for stringing the conductors between towers) a larger working area could be required on each side of the tower.

19.3.23 Excavations would be undertaken for each leg of the tower. The dimensions of the excavation would vary depending on the tower type constructed. A typical leg excavation would be between 64 to 125 m^3. Some rock breaking might be needed to achieve the required depths for the tower foundations depending on the ground conditions below.

19.3.24 Once the concrete has been poured and set, the excavations would be back-filled using the original materials, if suitable, and compacted in layers. Steelwork for each tower would be delivered to each tower location. The towers would be part assembled at ground level and the tower would be erected using a crane.

19.3.25 Once a number of sections of towers have been erected, conductors would be strung between them using a winch at one end of the section and a tensioner at the other end. First, a pilot wire would be flown by a helicopter through the section between the winch and the tensioner, placed in blocks on the suspension and tension towers and connected around the winch and tensioner at either end. Using the winch to pull the pilot wires, the conductor would then be drawn through the section under constant tension, allowing the conductor to be controlled without touching the ground.

CHP Infrastructure Connections

19.3.26 GEC may also require the installation of an on site CHP plant and off site CHP connections to the LG Development / other customers in the area. Further details on the CHP opportunities are presented in the CHP Assessment and the Supplementary CHP Assessment.

19.3.27 The results of the two assessments are that the provision of CHP from a CCGT specifically designed for such a purpose would be technically feasible. The installation and operation of CHP infrastructure could therefore take place as part of the construction of GEC, and therefore assessment of the potential impacts is covered by the environmental impact assessments presented in Sections 9 to 17 of the original ES.

19.3.28 In terms of off site CHP infrastructure, it should be noted that the installation of these (e.g. installation of pipes) may fall to the CHP user, and also are considered similar to the impacts of installing / upgrading utility services. These types of works are not considered to have the potential for significant environmental effects within the LG Development, and therefore the off site CHP infrastructure works are excluded from this Section.

19.3.29 The potential CHP infrastructure connections are therefore not considered further here.

The LG Development

19.3.30 GEC will be located on land within the LG Development.

19.3.31 The LG Development will involve the redevelopment of the former Shell Oil Refinery site at Shell Haven near Corringham and Stanford-le-Hope (Essex) together with associated transport connections, reclamation of part of the foreshore of the River Thames Estuary, and dredging of higher parts of the navigation channel within the Estuary to accommodate the passage of container vessels.

19.3.32 Once complete the LG Development is expected to become the most advanced deep-sea container Port in the UK, capable of handling approximately three and a half million cargo containers annually.

19.3.33 The LG Business and Logistics Park will serve the Port and has received outline planning permission for up to approximately 938 000 m^2 of distribution and manufacturing floor area.

19.3.34 A visualisation of the potential appearance and scale of the completed LG Development, including GEC, is available to view on http://www.londongateway.com/portal/page/portal/LONDON_GATEWAY/Home.

Carbon Capture Readiness / Carbon Capture and Storage

19.3.35 GEC will be designed so as to be carbon capture ready (CCR) with space made available in the design to allow for the retrofitting of a carbon capture plant in the future.

19.3.36 As required by DECC in its CCR Guidance[10], a CCR Feasibility Study has been undertaken for GEC which accompanied the Section 36 Consent application. Further details on this are provided in Section 8 of the ES, and in the stand-alone CCR Feasibility Study.

19.3.37 In accordance with the CCR Guidance it should be noted that

"*At the CCR stage, given the inevitable uncertainty about the precise route and what might by the CCS stage in the future be the safety and environmental requirements, we do not envisage any formal environmental impact assessment being undertaken*".

Furthermore:

"*In order to retrofit CCS, Government has made it clear that a further Section 36 Consent application will be required, in addition to the consents and licences*

[10] *Carbon Capture Readiness (CCR) A Guidance Note for Section 36 Electricity Act 1989 Consent Applications (DECC, November 2009)*

necessary for CO_2 transport and storage. At this point an EIA covering the impacts arising from CCS at the power station will be conducted".

19.3.38 Nevertheless, in addition to the high level assessment included in the CCR Feasibility Study, the likely significant environmental effects associated with the implementation of CCS at GEC are assessed in this document. However, it should be noted that due to the likely delay in the implementation of CCS there is a greater level of uncertainty associated with the development details.

19.4 Indirect / Secondary and Cumulative Impact Assessment

Indirect / Secondary Impacts – Construction

19.4.1 The following Section identifies the main likely indirect / secondary environmental impacts during the construction of the infrastructure connections. However, it should be noted that as an EIA has not yet been undertaken on these associated developments, the assessment is therefore based on an understanding of the likely construction processes and assumptions on timing, duration and knowledge of baseline conditions.

Gas Connection

19.4.2 Table 19.1 summarises the likely indirect / secondary impacts of GEC resulting from the gas connection.

Grid Connection

19.4.3 Table 19.2 summarises the likely indirect / secondary impacts of GEC resulting from an over ground grid connection. The majority of the focus assumes an over ground grid connection solution. Should an underground cable be used the potential impacts would be similar to those for the gas connection summarised in Table 19.1.

TABLE 19.1 – LIKELY INDIRECT / SECONDARY IMPACTS OF GEC RESULTING FROM THE GAS CONNECTION CONSTRUCTION

Impact Type	***Construction Impacts***	***Mitigation***	***Residual Effects***	***Means by which Mitigation will be Delivered***
Air Quality	During construction, there is the potential for impacts on air quality due to the nature of construction work (dust emissions arising from activities such as excavating / earth moving operations) and the additional traffic generated at this time.	Dust emissions will be managed and controlled through a Construction Environmental Management Plan (CEMP).	The residual impact is assessed as not significant.	CEMP.
Noise	During construction, there is the potential for noise impacts due to the nature of construction work (the use of noise generating plant) and the additional traffic generated at this time.	Construction plant and activities will be managed and controlled through a CEMP.	Although all construction works will be undertaken in accordance with a CEMP, it is still likely that there may be minor, temporary local noise impacts at receptors located between 100 m and 300 m from the pipeline route. The residual impact is assessed as not significant.	CEMP.
Landscape and Visual	Landscape impacts may arise on Local Landscape Character due to construction. Visual impacts will arise from the presence of cranes, machinery, excavations and temporary structures, etc.	Construction works will be screened by hoarding, where practical, to mitigate landscape and visual impacts near to sensitive receptors.	Although mitigation measures will reduce landscape and visual impacts, and the magnitude of change would be minimized in areas where the pipeline is laid using non-open cut techniques, it is likely that significant adverse landscape and visual impacts will arise during the construction phase. These impacts will be temporary in nature, and as such the residual impact is assessed as not significant.	CEMP.

Impact Type	***Construction Impacts***	***Mitigation***	***Residual Effects***	***Means by which Mitigation will be Delivered***
Ecology	There is the potential for impacts on ecology to arise during the construction phase. Based on the proposed route discussed in Section 6.1, there are 27 Statutory Designated Sites within 10 km of the proposed route, and 9 Non-Statutory Designated Sites within 2 km.	Habitat surveys and protected species surveys will be undertaken prior to construction works commencing on site. Areas where protected species are known to occur or areas with the potential to support ecological habitat will be avoided where possible, and removal of habitat will not occur during the breeding season.	Post-construction, any habitat which was removed will be re-instated. Therefore the residual impact is assessed as not significant.	CEMP.
Water Quality	There is the potential for impacts on controlled waters to arise. Water quality impacts may arise due to: surface run-off from the working width to the local watercourses; permeation of pollutants to local aquifers; increased sedimentation from open-cut crossings of streams and rivers; and, drainage of the pipeline, its trenches and the working width to local watercourses or land for natural soak away.	This impact will be managed and controlled through a CEMP and drainage strategy. No untreated water will be allowed to drain to controlled waters. Any water crossings will be designed to reduce impacts on water bodies.	The residual impact is assessed as not significant.	CEMP.
Geology and Land Contamination	Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages. Unidentified 'hot spots' of pollution could be encountered.	This impact will be managed and controlled through a CEMP. Procedures will be put in place to deal with any pollution spills. Where hot spots are encountered, these will be remediated as necessary, in the appropriate manner.	The residual impact is assessed as not significant.	CEMP.

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Land Use	Temporary loss of productive agricultural land.	The land used temporarily for laydown / occupation will be subject to protection measures during the construction works, and re-instated after. Productive agricultural land required will be minimized during pipeline route selection. Where land is required, farmers will be compensated for its temporary loss through financial measures.	All land will be re-instated post construction. Therefore, the residual impact is assessed as not significant.	CEMP.
Traffic	There may be additional construction traffic in the form of HGVs and construction personnel vehicles.	Traffic will be managed and controlled through a Construction Transport Management Plan (CTMP).	Construction traffic associated with the pipeline will be less concentrated, as it will not be necessary for all vehicles accessing the working width to do so via one site entrance. Therefore this spreads the traffic across the proposed access network and limits the impact on any one particular road. However, this may affect the smaller local roads in the area, and result in potential nuisance for nearby residents. Due to the low level of construction traffic generation and existing traffic on these roads, the residual impact is assessed as not significant.	CEMP / CTMP.

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Cultural Heritage	The cultural heritage in the area is well understood from the work undertaken for GEC and the LG Development. As such, the existence and whereabouts of any existing cultural heritage features which have the potential to be impacted upon are already well understood. It is unlikely that there will be impacts on archaeological remains of significance during construction.	An assessment of the likelihood of archaeological remains of significance along the proposed pipeline route will be undertaken. If it is discovered that archaeological remains are present, the construction works will avoid such an area if possible. In addition, an archaeological watching brief will be used during construction.	The works will predominately be taking place in an environment that is subject to regular disturbance from agricultural activities. Any archaeological remains will be recorded and described as part of the archaeological watching brief. The residual impact is assessed as not significant.	CEMP.
Socio-Economics	Short term employment opportunities during the construction works.	The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Residual positive impact, albeit short term.	None Required.

TABLE 19.2 – LIKELY INDIRECT / SECONDARY IMPACTS OF GEC RESULTING FROM THE GRID CONNECTION CONSTRUCTION

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Air Quality	During construction, there is the potential for impacts on air quality due to the nature of construction work (dust emissions arising from activities such as excavating / earth moving operations) and the additional traffic generated at this time.	Dust emissions will be managed and controlled through a CEMP.	The residual impact is assessed as not significant.	CEMP.
Noise	During construction, there is the potential for noise impacts due to the nature of construction work (the use of noise generating plant) and the additional traffic generated at this time.	Construction plant and activities will be managed and controlled through a CEMP.	Although all construction works will be undertaken in accordance with a CEMP, it is still likely that there may be minor, temporary local noise impacts at receptors located between 100 m and 300 m from the grid connection route. The residual impact is assessed as not significant.	CEMP.
Landscape and Visual	Landscape impacts may arise on Local Landscape Character due to construction. Visual impacts will arise from the presence of cranes, machinery, excavations and temporary structures, etc.	Construction works will be screened by hoarding, where practical, to mitigate landscape and visual impacts near to sensitive receptors.	Although mitigation measures will reduce landscape and visual impacts, and the magnitude of change would be minimized in areas where the grid connection follows the existing over head transmission lines, it is likely that significant adverse landscape and visual impacts will arise during the construction phase. These impacts will be temporary in nature, and as such the residual impact is assessed as not significant.	CEMP.

Impact Type	***Construction Impacts***	***Mitigation***	***Residual Effects***	***Means by which Mitigation will be Delivered***
Ecology	There is the potential for impacts on ecology to arise during the construction phase.	Habitat surveys and protected species surveys will be undertaken prior to construction works commencing on site. Areas where protected species are known to occur or areas with the potential to support ecological habitat will be avoided where possible, and removal of habitat will not occur during the breeding season.	Post-construction, any habitat which was removed will be re-instated. Therefore the residual impact is assessed as not significant.	CEMP.
Water Quality	There is the potential for impacts on controlled waters to arise. Water quality impacts may arise due to: surface run-off from the working width to the local watercourses; permeation of pollutants to local aquifers; increased sedimentation from open-cut crossings of streams and rivers; and, drainage of any under grounded parts of the grid connection, its trenches and the working width to local watercourses or land for natural soak away.	This impact will be managed and controlled through a CEMP and drainage strategy. No untreated water will be allowed to drain to controlled waters. Any water crossings will be designed to reduce impacts on water bodies.	The residual impact is assessed as not significant.	CEMP.
Geology and Land Contamination	Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages. Unidentified 'hot spots' of pollution could be encountered.	This impact will be managed and controlled through a CEMP. Procedures will be put in place to deal with any pollution spills. Where hot spots are encountered, these will be remediated as necessary, in the appropriate manner.	The residual impact is assessed as not significant.	CEMP.

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Land Use	Temporary loss of productive agricultural land.	The land used temporarily for laydown / occupation will be subject to protection measures during the construction works, and re-instated after. Productive agricultural land required will be minimised during grid connection route selection. Where land is required, farmers will be compensated for its temporary loss through financial measures.	All land will be re-instated post construction. Therefore, the residual impact is assessed as not significant.	CEMP.
Traffic	There may be additional construction traffic in the form of HGVs and construction personnel vehicles.	Traffic will be managed and controlled through a CTMP.	Construction traffic associated with the grid connection will be less concentrated, as it will not be necessary for all vehicles accessing the working width to do so via one site entrance. Therefore this spreads the traffic across the proposed access network and limits the impact on any one particular road. However, this may affect the smaller local roads in the area, and result in potential nuisance for nearby residents. Due to the low level of construction traffic generation and existing traffic on these roads, the residual impact is assessed as not significant.	CEMP / CTMP.

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Cultural Heritage	The cultural heritage in the area is well understood from the work undertaken for GEC and the LG Development. As such, the existence and whereabouts of any existing cultural heritage features which have the potential to be impacted upon are already well understood. It is unlikely that there will be impacts on archaeological remains of significance during construction.	An assessment of the likelihood of archaeological remains of significance along the proposed grid connection route will be undertaken. If it is discovered that archaeological remains are present, the construction works will avoid such an area if possible. In addition, an archaeological watching brief will be used during construction.	The works will predominately be taking place in an environment that is subject to regular disturbance from agricultural activities. Any archaeological remains will be recorded and described as part of the archaeological watching brief. The residual impact is assessed as not significant.	CEMP.
Socio-Economics	Short term employment opportunities during the construction works.	The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Residual positive impact, albeit short term.	None Required.

Indirect / Secondary Impacts – Operation

19.4.4 The following Section identifies the main likely indirect / secondary environmental impacts during the operation of the infrastructure connections. However, it should be noted that a full assessment has not yet been undertaken on these associated developments, the assessment is therefore based on an understanding of the likely operational processes and assumptions on timing, duration and knowledge of baseline conditions.

Gas Connection

19.4.5 It is expected that the main indirect / secondary impacts will be associated with landscape and visual, noise and land use.

19.4.6 Furthermore, it is expected that there will be no indirect / secondary impacts on air quality, ground contamination, water resources, ecology, socio-economics or archaeology during operation of the gas connection.

19.4.7 Additionally, indirect / secondary impacts associated with traffic are not considered significant, and therefore no mitigation is proposed. This is due to the following reasons:

- *Traffic* – Traffic will be limited to infrequent maintenance checks and emergency situations. Due to the infrequent nature of this trip, this is unlikely to present an impact.

19.4.8 Table 19.3 summarises the likely indirect / secondary impacts of GEC resulting from the gas connection.

Grid Connection

19.4.9 It is expected that the main indirect / secondary impacts will be associated with landscape and visual, and land use.

19.4.10 Furthermore, it is expected that there will be no indirect / secondary impacts on air quality, ground contamination, water resources, ecology, socio-economics and archaeology during operation of the over ground grid connection.

19.4.11 Additionally, indirect / secondary impacts associated with traffic, noise, and electro-magnetic fields are not considered significant, and therefore no mitigation is proposed. This is due to the following reasons:

- *Traffic* – Traffic will be limited to infrequent maintenance checks and emergency situations. Due to the infrequent nature of this trip, this is not considered to present an impact.
- *Noise* – There is the potential for low level noise associated with the over ground grid connection, especially during damp / wet weather conditions. However, this is not expected to be a significant source of noise.
- *Electro-magnetic Fields* – There is the potential for electric and magnetic fields to be associated with the transmission lines. However, NGET and their predecessors have carried out extensive studies into the effects of these fields. The advice provided by NGET suggests that fields normally encountered by people living and working in their vicinity do not have an adverse health impact. Similarly it is advised that electric and magnetic fields are unlikely to have any impacts on farming or related activities.

19.4.12 Table 19.4 summarises the likely indirect / secondary impacts of GEC resulting from an over ground grid connection.

TABLE 19.3 – LIKELY INDIRECT / SECONDARY IMPACTS OF GEC RESULTING FROM THE GAS CONNECTION OPERATION

Impact Type	*Operation Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Noise	There is the potential for low level noise associated with the off take Above Ground Installation (AGI).	High specification, low noise plant will be specified during the design phase. Regular maintenance checks will be carried out to ensure plant is working efficiently. Broken or faulty plant will be replaced.	The residual impact is assessed as not significant.	Condition of Consent.
Landscape and Visual	It is likely that there will be landscape and visual impacts associated with the off take AGI.	The landscape and visual impact of the off take AGI will be screened by planting to reduce visual impacts.	Due to the fact that the impact will reduce over time as the screening becomes more effective, the residual impact is assessed as not significant.	Condition of Consent.
Land Use	Permanent occupation of agricultural land by off take AGI.	The landowner will be compensated by financial means for the permanent occupation of land.	The gas pipeline will be buried for its length. Therefore the residual impact is assessed as not significant. In terms of the occupation of land for the off take AGI, the residual impact is assessed as not significant.	Condition of Consent.

TABLE 19.4 – LIKELY INDIRECT / SECONDARY IMPACTS OF GEC RESULTING FROM THE GRID CONNECTION OPERATION

Impact Type	*Operation Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Landscape and Visual	There will likely be landscape and visual impacts associated with the operation of an over ground grid connection solution.	Careful route selection and consideration of alternatives, taking into account the guidance in Draft EN-5 (on routing and over ground grid connections versus those under grounded) and the Holford Rules discussion in Section 6.1. The landscape and visual impact of the over ground grid connection will influence the final decision on the route selection.	In terms of an over ground grid connection, it is likely that there will be significant adverse landscape impacts (where the proposed route diverges from the existing transmission lines) and visual impacts (primarily in areas where the route passes in relatively close proximity to residential receptors which have a view of the proposed route).	Careful route selection / consideration of alternatives. Legal agreement with the relevant landowners.
Land Use	Permanent occupation of agricultural land by transmission towers.	The landowner will be compensated by financial means for the permanent occupation of land.	It is not anticipated that the transmission towers will pose any threat to the viability of any farm on which they will be located. Therefore, the residual impact is assessed as not significant.	Legal agreement with the relevant landowners.

LG Development Cumulative Impacts – Construction

19.4.13 Table 19.5 summarises the likely cumulative impacts resulting from the construction of the LG Development.

LG Development Cumulative Impacts – Operation

19.4.14 Table 19.6 summarises the likely cumulative impacts resulting from the operation of the LG Development.

TABLE 19.5 – LIKELY IMPACTS OF THE LG DEVELOPMENT CONSTRUCTION

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Air Quality	During construction, there is the potential for dust emissions to arise.	Outline Planning Application (OPA) Conditions[11] 67 (wheel cleansing), 69 (management of dust) and 76 (CEMP). A Framework Construction Management Strategy (FCMS), which includes provisions for air quality mitigation during the construction period, has been submitted and approved by the Local Planning Authority in consultation with relevant stakeholders. All contractors employed at the LG Development will be required to submit detailed proposals which comply with the FCMS.	Following implementation of the mitigation, LG Development ES states that there will be no residual impact.	OPA Conditions / Construction Management Strategy.
Noise	Noise generating plant will be used during the construction phase. LG Development ES states that there will be changes to the baseline noise levels at a number of identified receptors.	OPA Conditions 68 (control of noise) and 76 (CEMP). A Framework Construction Management Strategy (FCMS), which includes provisions for noise mitigation during the construction period, has been submitted and approved by the Local Planning Authority in consultation with relevant stakeholders. All contractors employed at the LG Development will be required to submit detailed proposals which comply with the FCMS.	Following implementation of the mitigation, LG Development ES states that the residual impact will range between none (night time) and moderate adverse (day time).	OPA Conditions / Construction Management Strategy.

[11] *The LG Development OPA Conditions are attached in Appendix D.*

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Landscape and Visual	Landscape and visual impacts associated with the construction of the LG Development.	Aside from the measures discussed in the LG Development ES, DP World – London Gateway are not required to provide any construction mitigation.	The LG Development ES states that the residual impacts will vary depending on development and receptor. The findings are summarised here: <u>LG Logistics and Business Park</u> • Landscape Impacts – Negligible / None to Moderate Adverse • Visual Impacts – Negligible / None to Moderate Adverse <u>Road</u> • Landscape Impacts – Negligible / None to Major Adverse • Visual Impacts – Negligible / None to Major Adverse <u>Rail</u> • Landscape Impacts – Negligible / None to Major Adverse • Visual Impacts – Negligible / None to Moderate Adverse	Mitigation only as described in LG Development ES.

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Ecology	Despite the nature of the site, and the program of clearance and remediation being undertaken, there is potential for impacts on ecological receptors.	OPA Conditions 73 (Ecological Management and Mitigation Plans), 74 (Ecological Action Plans), 75 (Ecological Advisory Group) and 76 (CEMP). Habitat surveys (and, if required, protected species surveys) are being undertaken prior to construction works commencing on site. Measures to introduce biodiversity enhancements on and off site are being identified. Ecology clearance and relocation of species are being undertaken under licenses pursuant to the Conservation (Natural Habitats and c. Regulations 1994 (as amended). The Ecological Management and Mitigation Plans for the LG Port and Logistics and Business Park detail the proposed mitigation as a result of the LG Port HEO.	Following implementation of the mitigation, LG Development ES states that the residual impact will vary for individual ecological receptors, including: • Plants – Negligible • Badger – Negligible • Bats – Minor Adverse • Brown Hare – Minor Adverse • Water Vole – Negligible to Moderate Adverse • Birds – Minor Adverse • Invertebrates – Negligible • Reptiles / Amphibians – Minor Adverse	OPA Conditions

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Water Quality	There is the potential for impacts on controlled waters to arise.	OPA Conditions 29 (temporary drainage scheme), 30 (monitoring of outfalls) and 76 (CEMP). A Framework Construction Management Strategy (FCMS), which includes provisions for drainage and water quality mitigation during the construction period, has been submitted and approved by the Local Planning Authority in consultation with relevant stakeholders. All contractors employed at the LG Development will be required to submit detailed proposals which comply with the FCMS.	Following implementation of the mitigation, LG Development ES states that the residual impacts may be minor adverse.	OPA Conditions / Construction Management Strategy.
Geology and Land Contamination	Due to the location of the LG Development site, and the historical land uses, there is a high potential for contamination to be present on site. Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages.	OPA Conditions 83 (earthworks), 84 (testing of imported materials), 89 (ground condition assessment and remediation scheme), 90 (stripping and storage of topsoil) and 76 (CEMP). A Framework Construction Management Strategy (FCMS), which includes provisions for ground contamination mitigation during the construction period, has been submitted and approved by the Local Planning Authority in consultation with relevant stakeholders. All contractors employed at the LG Development will be required to submit detailed proposals which comply with the FCMS.	Following implementation of the mitigation, LG Development ES states that the residual impacts will be: • None – on solid and drift geology; • Minor Beneficial due to the reduction in residual contamination and reduction in potential for unexploded ordnance; and • Minor Adverse due to generation of wastes that cannot be treated for use on site.	OPA Conditions / Construction Management Strategy.

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Traffic	There may be additional construction traffic in the form of HGVs and construction personnel vehicles.	OPA Conditions 63 (parking management scheme), 61 (notification of preferred routes), 62 (preferred routes) and 76 (CEMP). A Framework Construction Management Strategy (FCMS), which includes provisions construction traffic mitigation, has been submitted and approved by the Local Planning Authority in consultation with relevant stakeholders. All contractors employed at the LG Development will be required to submit detailed proposals which comply with the FCMS.	Due to the low levels of construction traffic expected, the residual impact is assessed as not significant.	OPA Conditions / Construction Management Strategy.
Cultural Heritage	Due to the nature of the site, and its historical uses, there is potential for impacts on cultural heritage and archaeology.	OPA Conditions 91 (programme of archaeological work), 92 (archaeological method statement) and 76 (CEMP).	Following implementation of the mitigation, LG Development ES states that the residual impact will vary between none and minor adverse.	OPA Conditions
Socio-Economics	Short term employment opportunities during the construction works.	The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Residual positive impact, albeit short term.	None Required.

TABLE 19.6 – LIKELY IMPACTS OF THE LG DEVELOPMENT OPERATION

Impact Type	*Operation Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Air Quality	LG Development ES states there may be local air quality effects and greenhouse gas effects associated with the operation of the LG Development.	OPA Conditions 57. 58 and 59.	Following implementation of the mitigation, LG Development ES states: • No residual impacts to local air quality • Moderate adverse impacts due to greenhouse gas effects	OPA Conditions.
Noise and Vibration	LG Development ES states there may be traffic and industrial noise associated with the operation of the LG Development which will increase the baseline noise levels.	OPA Conditions 51, 54, 55, 70 and 71 all deal with requirements for acoustic barriers. OPA Condition 56 requires low noise surfacing on The Manorway (A1014). OPA Condition 72 restricts the placing of plant machinery on walls or roofs of buildings without prior approval.	Following implementation of the mitigation, LG Development ES states the post mitigation residual impacts are an increase in the baseline noise levels. A summary of the residual impacts with and without the Tilbury Loop Junction Improvements are: • Impacts due to daytime operational traffic – not significant • Impacts due to daytime industrial activities – not significant • Impacts due to night time operational traffic – minimal adverse • Impacts due to night time industrial activities – minor adverse	OPA Conditions.

Impact Type	*Operation Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Landscape and Visual	Landscape and visual impacts associated with the operational LG Development.	The LG Development has been designed to minimize any landscape and visual impacts. OPA Conditions 77 (strategic landscaping), 78 (landscape scheme), 79 (landscape management plan), 80 (hard and soft landscape works), 81 (hard and soft landscape works), 82 (dead or damaged trees) and 83 (earthworks). OPA Condition 72 restricts the placing of plant machinery on walls or roofs of buildings without prior approval.	Following implementation of the mitigation, LG Development ES states that the residual impacts will vary depending on development and receptor. The findings are summarised here: <u>LG Logistics and Business Park</u> • Landscape Impacts – Moderate Benefit to Minor Adverse • Visual Impacts – Minor Benefit to Moderate Adverse <u>Road</u> • Landscape Impacts – Minor Benefit to Minor Adverse • Visual Impacts – Minor Benefit to Minor Adverse <u>Rail</u> • Landscape Impacts – Negligible / None to Minor Adverse • Visual Impacts – Negligible / None to Minor Adverse	OPA Conditions.

Impact Type	*Operation Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Ecology	Despite the nature of the site, and the program of clearance and remediation being undertaken, there is potential for impacts on ecological receptors.	OPA Conditions 73 (Ecological Management and Mitigation Plans), 74 (Ecological Action Plans), and 75 (Ecological Advisory Group). The Ecological Management and Mitigation Plans for the LG Port and Logistics and Business Park detail the proposed mitigation as a result of the LG Port HEO.	Following implementation of the mitigation, LG Development ES states that the residual impact will vary for individual ecological receptors, including: • Plants – Negligible • Badger – Negligible to Minor Adverse • Bats – Minor Adverse • Water Vole – Minor Adverse • Birds – Minor Adverse • Invertebrates – None • Reptiles / Amphibians – Negligible to Minor Beneficial	OPA Conditions
Traffic	There may be large traffic volumes and movement associated with the operation of the LG Development. The potential for cumulative impacts of this operational traffic with GEC will be determined by the timing of the uptake of sites within the LG Development. Construction traffic associated with the GEC will be small in comparison to the total anticipated trip generation of the LG Development. However, it is feasible that the construction of GEC could be completed prior to the generation of any significant LG Development operational traffic.	OPA Conditions and Obligations include: highway improvement schemes; Travel Plans; Travel Plan Committee; and, Section 106 contributions towards highway mitigation.	There will be no significant cumulative impact on the local road network as a result of GEC and the LG Development.	OPA Conditions and Obligations.

Assessment of Impacts

Type 1 Cumulative Impacts

19.4.15 The cumulative effects of different types of impact or impact interactions from the proposed developments on particular receptors have been considered both during the construction stage and the operation stage.

Type 1 Cumulative Impacts – Construction

19.4.16 It is considered that the greatest likelihood of impact interaction, and hence significant impacts, would occur during the construction phase. Indeed, construction impacts are generally more adverse (albeit on a temporary basis) than operational impacts.

19.4.17 Details of the construction phases of GEC, and the associated infrastructure and developments are given in Table 19.7.

TABLE 19.7 – DETAILS OF CONSTRUCTION FOR THE VARIOUS DEVELOPMENTS

	GEC	***Gas Connections***	***Grid Connection***	***LG Development***
Construction Activities	• Site preparation and enabling works • Installation of plant, associated sub-buildings and the sub-station • Commissioning	• Route preparation and installation of temporary access routes and crossings (if required) • Relocation of existing facilities (if required) • Top-soil stripping • Trench excavation • Pipe laying • Backfilling • Pressure testing • Installation of off take AGI • Restoration	• Route preparation and installation of temporary access routes and crossings (if required) • Relocation of existing facilities (if required) • Construction of tower foundations • Erection of towers • Conductor stringing • Restoration	• Site preparation and enabling works • Construction of the LG Development and associated infrastructure
Construction Area / Corridor	11.3 ha (includes 4.7 ha of land reserved for CCR / CCS)	Approximately 2.3 ha	Approximately up to 36 ha	607 ha (approximately)
Programme Dates	2012 to 2015	Between 2012 and 2014	Between 2012 and 2014	2010 – Construction ongoing.
Duration	28 to 36 months	18 months	18 months	Ongoing

19.4.18 Rather than undertaking an assessment of the potential for significant impacts on each possible receptor, groups of sensitive receptors have been chosen which are likely to be the most sensitive to Type 1 Cumulative Impacts. The criteria for identifying those receptors which are considered likely to be sensitive has included existing land uses, proximity to construction works and likely duration of exposure to impacts.

19.4.19 For the purposes of the assessment, and in order to ensure that likely significant effects are assessed a worst case scenario has been assumed, namely that receptors will be subject to construction impacts throughout the duration of the construction works. However, it is likely that the proposed gas and grid connections would be constructed in stages, and the construction activities would travel along the line of the route as sections are completed.

19.4.20 Table 19.8 presents the likely Type 1 Cumulative Impacts that may be felt whilst the construction works are taking place for GEC, the gas and grid connections and the LG Development. There is the potential for some construction to occur at a later date, and if this is the case the environmental impacts may continue for a longer time, but the cumulative impacts may be reduced.

TABLE 19.8 – LIKELY TYPE 1 CUMULATIVE IMPACT INTERACTIONS DURING CONSTRUCTION OF THE GEC, THE GAS AND GRID CONNECTIONS AND THE LG DEVELOPMENT

Sensitive Receptor	***2012***	***2013***	***2014***	***2015***
Nearby residential properties	D / N / V / T	D / N / V / T	D / N / V / T	Very minor impacts
Adjacent commercial users	D / N / T	D / N / T	D / N / T	Very minor impacts
Land owners	D / N / L / T	D / N / L / T	D / N / L / T	No impacts
Protected species	D / N	D / N	D / N	No impacts
Surface water / agricultural drainage systems	D / N / T	D / N / T	D / N / T	No impacts
Agricultural land	D / N	D / N	D / N	No impacts

D – Temporary, local, adverse dust impacts
N – Temporary, local, adverse noise impacts
V – Temporary, local, adverse visual impacts
L – Temporary loss of land
T – Temporary, local, adverse traffic impacts

19.4.21 As shown in the Table above, the majority of the impacts arise from activities such as: dust from plant and vehicles; noise and vibration for construction plant and vehicles; landscape and visual impact of the works; and passing HGVs.

19.4.22 However, as described in the ES, a CEMP will be implemented during the construction phase, likely secured by an appropriate planning condition. As it is assumed that similar CEMPs will be in place for the other developments, a mechanism will be in place to minimise construction impacts 'at source' in order to reduce the likely impacts on surrounding receptors.

19.4.23 Accordingly, overall it is considered that any impact interactions occurring will generally be temporary and short term in nature. Furthermore these can be mitigated to a large extent by the control measures set out the appropriate CEMPs.

19.4.24 Therefore the likely Type 1 Cumulative Impacts predicted to occur during construction are likely to be not significant.

Type 1 Cumulative Impacts – Operation

19.4.25 Similar to the approach used above, rather than undertaking an assessment of the potential for significant impacts on each possible receptor a group has been chosen which is likely to be the most sensitive to Type 1 Cumulative Impacts.

19.4.26 For the purposes of the assessment, and in order to assume a worst case scenario, operational impacts from all proposed developments have been considered.

19.4.27 Table 19.9 presents the likely Type 1 Cumulative Impacts that may be felt during the operation of GEC, the gas and grid connections and the LG Development.

TABLE 19.9 – LIKELY TYPE 1 CUMULATIVE IMPACT INTERACTIONS DURING OPERATION OF THE DEVELOPMENT OF GEC, THE GAS AND GRID CONNECTIONS AND THE LG DEVELOPMENT

Sensitive Receptor	***Operational Lifetime of Developments***
Nearby residential properties	V / T
Adjacent commercial users	T
Land owners	L
V – Visual impacts L – Permanent loss of land T – Traffic impacts	

19.4.28 The mitigation measures, as have been described previously, will reduce the likely Type 1 Cumulative Impacts during operation. Therefore the likely Type 1 Cumulative Impacts predicted to occur during operation are largely assessed to be not significant.

Type 2 Cumulative Impacts

19.4.29 An initial screening exercise was undertaken to identify which aspects of the environment may be subject to Type 2 Cumulative Impacts as a result of the construction and operation of GEC, and the associated infrastructure and developments.

Type 2 Cumulative Impacts – Construction

19.4.30 Table 19.10 summarises the likely Type 2 Cumulative Impacts which could be encountered during construction. In addition, Table 19.10 summarises the proposed mitigation and determines the significance of the likely Type 2 Cumulative Impacts.

Type 2 Cumulative Impacts – Operation

19.4.31 Table 19.11 summarises the likely Type 2 Cumulative Impacts which could be encountered during operation. In addition, Table 19.11 summarises the proposed mitigation and determines the significance of the likely Type 2 Cumulative Impacts.

TABLE 19.10 – LIKELY TYPE 2 CUMULATIVE IMPACTS DURING CONSTRUCTION OF THE VARIOUS DEVELOPMENTS[12]

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Air Quality	During construction, there is the potential for dust emissions to arise. Dust impacts will be managed and controlled through a CEMP.	During construction, there is the potential for dust emissions to arise. Dust impacts will be managed and controlled through a CEMP.	During construction, there is the potential for dust emissions to arise. Dust impacts will be managed and controlled through a CEMP.	During construction, there is the potential for dust emissions to arise. Mitigation included in OPA Conditions and Construction Management Strategy (see Table 19.5 for details)	Cumulative impacts are likely to be insignificant. Mitigation as described.
Noise	Noise generating plant will be used during the construction phase. Construction plant and activities will be managed and controlled through a CEMP.	Noise generating plant will be used during the construction phase. Construction plant and activities will be managed and controlled through a CEMP.	Noise generating plant will be used during the construction phase. Construction plant and activities will be managed and controlled through a CEMP.	Noise generating plant will be used during the construction phase / changes in baseline noise levels at a number of sensitive receptors. Mitigation included in OPA Conditions and Construction Management Strategy (see Table 19.5 for details)	Cumulative impacts are likely to be insignificant. Mitigation as described.

[12] *Reference should be made back to Tables 19.1, 19.2 and 19.5*

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Landscape and Visual	It is unlikely that there will be any impacts on the landscape character. It is likely that visual impacts will occur. Construction works will be screened by hoarding, where practical, to mitigate and landscape and visual impacts near to sensitive receptors.	Landscape impacts may arise on Local Landscape Character due to construction. Visual impacts will arise from the presence of cranes, machinery, excavations and temporary structures, etc. Construction works will be screened by hoarding, where practical, to mitigate landscape and visual impacts near to sensitive receptors.	Landscape impacts may arise on Local Landscape Character due to construction. Visual impacts will arise from the presence of cranes, machinery, excavations and temporary structures, etc. Construction works will be screened by hoarding, where practical, to mitigate landscape and visual impacts near to sensitive receptors.	Landscape impacts vary from Negligible / None to Major Adverse. Visual impacts vary from Negligible / None to Major Adverse. Aside from the measures discussed in the LG Development ES, DP World – London Gateway are not required to provide construction mitigation.	Likely temporary significant adverse cumulative impacts during construction. Mitigation as described. These impacts will be temporary in nature, and as such the residual impact is assessed as not significant.
Ecology	Due to the nature of the site, and the program of clearance and remediation being undertaken, there is limited potential for impacts on ecological receptors. Habitat surveys (and, if required, protected species surveys) will be undertaken prior to construction works commencing on site. Measures to introduce biodiversity enhancements on and off site will be indentified.	There is the potential for impacts on ecology to arise during the construction phase. Habitat surveys and protected species surveys will be undertaken prior to construction works commencing on site. Areas where protected species are known to occur or areas with the potential to support ecological habitat will be avoided where possible, and removal of habitat will not occur during the breeding season.	There is the potential for impacts on ecology to arise during the construction phase. Habitat surveys and protected species surveys will be undertaken prior to construction works commencing on site. Areas where protected species are known to occur or areas with the potential to support ecological habitat will be avoided where possible, and removal of habitat will not occur during the breeding season.	Despite the nature of the site, and the program of clearance and remediation being undertaken, there is potential for impacts on ecological receptors. Mitigation included in OPA Conditions (see Table 19.5 for details).	Cumulative impacts are likely to be insignificant. Mitigation as described.

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Water Quality	There is the potential for impacts on controlled waters to arise. This impact will be managed and controlled through a CEMP and drainage strategy.	There is the potential for impacts on controlled waters to arise. This impact will be managed and controlled through a CEMP and drainage strategy. No untreated water will be allowed to drain to controlled waters. Any water crossings will be designed to reduce impacts on water bodies.	There is the potential for impacts on controlled waters to arise. This impact will be managed and controlled through a CEMP and drainage strategy. No untreated water will be allowed to drain to controlled waters. Any water crossings will be designed to reduce impacts on water bodies.	There is the potential for impacts on controlled waters to arise. Mitigation included in OPA Conditions and Construction Management Strategy (see Table 19.5 for details).	No cumulative impacts identified.

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Geology, Hydrogeology and Land Contamination	Due to the location of the site, and the historical land uses, there is a high potential for contamination to be present on site. Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages. A full program of remediation will be undertaken prior to the commencement of construction. A risk assessment will be carried out prior to the commencement of construction work on site. This impact will be managed and controlled through a CEMP. Procedures will be put in place to deal with any pollution spills.	Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages. This impact will be managed and controlled through a CEMP. Procedures will be put in place to deal with any pollution spills.	Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages. This impact will be managed and controlled through a CEMP. Procedures will be put in place to deal with any pollution spills.	Due to the location of the LG Development site, and the historical land uses, there is a high potential for contamination to be present on site. Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages. Mitigation included in OPA Conditions and Construction Management Strategy (see Table 19.5 for details).	No cumulative impacts identified.

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Land Use	No impacts anticipated.	Temporary loss of productive agricultural land. The land used temporarily for laydown / occupation will be subject to protection measures during the construction works, and re-instated after. Productive agricultural land required will be minimized during pipeline route selection. Where land is required, farmers will be compensated for its temporary loss through financial measures.	Temporary loss of productive agricultural land. The land used temporarily for laydown / occupation will be subject to protection measures during the construction works, and re-instated after. Productive agricultural land required will be minimized during pipeline route selection. Where land is required, farmers will be compensated for its temporary loss through financial measures.	No impacts anticipated.	No cumulative impacts identified.
Traffic	There may be additional construction traffic in the form of HGVs and construction personnel vehicles. Traffic will be managed and controlled through a CTMP.	There may be additional construction traffic in the form of HGVs and construction personnel vehicles. Traffic will be managed and controlled through a CTMP.	There may be additional construction traffic in the form of HGVs and construction personnel vehicles. Traffic will be managed and controlled through a CTMP.	There may be additional construction traffic in the form of HGVs and construction personnel vehicles. Mitigation included in OPA Conditions (see Table 19.5 for details).	Cumulative impacts are likely to be insignificant. Mitigation as described.

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Cultural Heritage	The cultural heritage in the area is well understood from the work undertaken for GEC and the LG Development. As such, the existence and whereabouts of any existing cultural heritage features which have the potential to be impacted upon are already well understood. It is unlikely that there will be any archaeological remains of significance. An assessment of the likelihood of archaeological remains of significance on the proposed site will be undertaken. If it is discovered that archaeological remains are present, an archaeological watching brief will be used during construction.	The cultural heritage in the area is well understood from the work undertaken for GEC and the LG Development. As such, the existence and whereabouts of any existing cultural heritage features which have the potential to be impacted upon are already well understood. It is unlikely that there will be impacts on archaeological remains of significance during construction. An assessment of the likelihood of archaeological remains of significance along the proposed pipeline route will be undertaken. If it is discovered that archaeological remains are present, the construction works will avoid such an area if possible. In addition, an archaeological watching brief will be used during construction.	The cultural heritage in the area is well understood from the work undertaken for GEC and the LG Development. As such, the existence and whereabouts of any existing cultural heritage features which have the potential to be impacted upon are already well understood. It is unlikely that there will be impacts on archaeological remains of significance during construction. An assessment of the likelihood of archaeological remains of significance along the proposed pipeline route will be undertaken. If it is discovered that archaeological remains are present, the construction works will avoid such an area if possible. In addition, an archaeological watching brief will be used during construction.	Due to the nature of the site, and its historical uses, there is potential for impacts on cultural heritage and archaeology. Mitigation included in OPA Conditions and Construction Management Strategy (see Table 19.5 for details).	No cumulative impacts identified.

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Socio-Economics	Short term employment opportunities during the construction works. The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Short term employment opportunities during the construction works. The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Short term employment opportunities during the construction works. The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Short term employment opportunities during the construction works. The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Positive cumulative impacts identified. No mitigation required.

TABLE 19.11 – LIKELY TYPE 2 CUMULATIVE IMPACTS DURING OPERATION OF THE VARIOUS DEVELOPMENTS[13]

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Air Quality	Emissions of nitrogen oxides (NO_x). The ES shows these to be not significant.	No impacts identified.	No impacts identified.	There may be local air quality effects and greenhouse gas effects associated with the operation of the LG Development. Mitigation included in OPA Conditions (see Table 19.6 for details).	Cumulative impacts are likely to be insignificant. Mitigation as described.
Noise	Continuous low level noise from the operation of GEC. The ES shows this to be not significant.	There is the potential for low level noise associated with the off take Above Ground Installation (AGI). High specification, low noise plant will be specified during the design phase. Regular maintenance checks will be carried out to ensure plant is working efficiently. Broken or faulty plant will be replaced.	No impacts identified.	There may be traffic and industrial noise associated with the operation of the LG Development which will increase the baseline noise levels. Mitigation included in OPA Conditions (see Table 19.6 for details).	Cumulative impacts are likely to be insignificant. Mitigation as described.

[13] *Reference should be made back to Tables 19.3, 19.4 and 19.6*

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Landscape and Visual	Limited Local Landscape Character Impact. It is likely that visual impacts will occur.	It is likely that there will be landscape and visual impacts associated with the off take AGI. The landscape and visual impact of the off take AGI will be screened by planting to reduce visual impacts.	There will likely be landscape and visual impacts associated with the operation of an over ground grid connection solution. The landscape and visual impact of the over ground grid connection will influence the final decision on the route selection.	Landscape impacts vary from Moderate Benefit to Minor Adverse. Visual impacts vary from Minor Benefit to Moderate Adverse. The LG Development has been designed to minimize any landscape and visual impacts. Mitigation included in OPA Conditions (see Table 19.6 for details).	Likely significant adverse cumulative impacts during operation. Mitigation as described.
Ecology	Limited potential for ecological impacts.	No impacts identified.	No impacts identified.	Despite the nature of the site, and the program of clearance and remediation being undertaken, there is potential for impacts on ecological receptors. Mitigation included in OPA Conditions (see Table 19.6 for details).	Cumulative impacts are likely to be insignificant. Mitigation as described.
Water Quality	Increase in water consumption.	No impacts identified.	No impacts identified.	No impacts identified.	No cumulative impacts identified.
Geology, Hydrogeology and Land Contamination	Post-mitigation, there are no potential risks associated with the GEC site	No impacts identified.	No impacts identified.	The geology, hydrogeology and land contamination impacts are deemed to be positive due to the regeneration of a contaminated site.	No cumulative impacts identified.

Impact	*GEC*	*Gas Connection*	*Grid Connection*	*LG Development*	*Likely Cumulative Impacts and Mitigation*
Land Use	No impacts identified.	Permanent occupation of agricultural land by off take AGI. The landowner will be compensated by financial means for the permanent occupation of land.	Permanent occupation of agricultural land by transmission towers. The landowner will be compensated by financial means for the permanent occupation of land.	No impacts identified.	Cumulative impacts are likely to be insignificant. Mitigation as described.
Traffic		No impacts identified.	No impacts identified.	Large traffic volumes and movement associated with the operation of the Port and Business and Logistics Park. Mitigation included in OPA Conditions and Obligations (see Table 19.6 for details).	The potential for cumulative impacts of this operational traffic with GEC will be determined by the timing of the uptake of sites within the LG Development. At present, cumulative impacts are not identified.
Cultural Heritage	It is unlikely that there will be any archaeological remains of significance.	No impacts identified.	No impacts identified.	No impacts identified.	No cumulative impacts identified.
Socio-Economics	Employment opportunities during the operation of GEC. The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	No impacts identified.	No impacts identified.	The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Positive cumulative impacts identified. No mitigation required.

19.5 Discussion of CCR / CCS Impacts

19.5.1 Further to the CCR Feasibility Study submitted in support of the Section 36 Consent application, the following Section summarises the main likely environmental impacts due to CCR / CCS.

19.5.2 However, due to the likely delay in the implementation of CCS and the greater level of uncertainty associated with the development details, it should be noted the following assessment is based on an understanding of the likely construction processes and assumptions on timing, duration and knowledge of baseline conditions. Reasoning for this approach has been discussed previously in Section 8.3.

CCR / CCS Impacts – Construction

19.5.3 Table 19.12 summarises the likely impacts resulting from the construction of a CCS solution at GEC.

CCR / CCS Impacts – Operation

19.5.4 Table 19.13 summarises the likely impacts resulting from the operation of a CCS solution at GEC.

TABLE 19.12 – LIKELY INDIRECT / SECONDARY IMPACTS OF GEC RESULTING FROM CCS SOLUTION CONSTRUCTION

Impact Type	***Construction Impacts***	***Mitigation***	***Residual Effects***	***Means by which Mitigation will be Delivered***
Air Quality	During construction, there is the potential for dust emissions to arise.	Dust emissions will be managed and controlled through a CEMP.	The residual impact is assessed as not significant.	CEMP.
Noise	Noise generating plant will be used during the construction phase.	Construction plant and activities will be managed and controlled through a CEMP.	Although all construction works will be undertaken in accordance with a CEMP, it is still likely that there may be minor, temporary local noise impacts at receptors located between 100 m and 300 m from the construction site. The residual impact is assessed as not significant.	CEMP.
Landscape and Visual	Landscape Impacts may arise on Local Landscape Character due to construction. Visual Impacts will arise from the presence of cranes, machinery, excavations and temporary structures, etc.	Construction works will be screened by hoarding, where practical, to mitigate landscape and visual impacts near to sensitive receptors.	Although mitigation measures will reduce landscape and visual impacts, and the magnitude of change would be minimized due to the context of the development, it is likely that significant adverse landscape and visual impacts will arise during the construction phase. These impacts will be temporary in nature, and as such the residual impact is assessed as not significant.	CEMP.
Ecology	Due to the nature of the site, and the program of clearance and remediation being undertaken, there is limited potential for impacts on ecological receptors.	Habitat surveys (and, if required, protected species surveys) will be undertaken prior to construction works commencing on site. Measures to introduce biodiversity enhancements on and off site will be identified.	The residual impact is assessed as not significant.	CEMP.

Impact Type	*Construction Impacts*	*Mitigation*	*Residual Effects*	*Means by which Mitigation will be Delivered*
Water Quality	There is the potential for impacts on controlled waters to arise.	This impact will be managed and controlled through a CEMP and drainage strategy. No untreated water will be allowed to drain to controlled waters.	The residual impact is assessed as not significant.	CEMP.
Geology and Land Contamination	Due to the location of the site, and the historical land uses, there is a high potential for contamination to be present on site. Contaminants (such as fuels and concrete) will be used on site. There is the potential for land contamination to occur as a result of spillages.	A full program of remediation will be undertaken prior to the commencement of construction. A risk assessment will be carried out prior to the commencement of construction work on site. This impact will be managed and controlled through a CEMP. Procedures will be put in place to deal with any pollution spills.	The risk assessment will identify the risks on site, and the likelihood of significant impacts / significant harm. If necessary, further remediation and mitigation measures will be undertaken to reduce the likelihood of significant impacts / significant harm. Post-mitigation, the residual impact is assessed as not significant.	CEMP.
Traffic	There may be additional construction traffic in the form of HGVs and construction personnel vehicles.	Traffic will be managed and controlled through a CTMP. It is proposed that the construction of the CCS Solution will be similar in scale to the construction of GEC. Therefore the assessment of traffic impacts is expected to be similar.	The residual impact is assessed as not significant.	CEMP / CTMP.
Cultural Heritage	No impacts are anticipated.	As assessment of the likelihood of archaeological remains of significance on the proposed site will be undertaken. If it is discovered that archaeological remains are present, an archaeological watching brief will be used during construction.	Any archaeological remains will be recorded and described as part of the archaeological watching brief. The residual impact is assessed as not significant.	CEMP.

Impact Type	***Construction Impacts***	***Mitigation***	***Residual Effects***	***Means by which Mitigation will be Delivered***
Socio-Economics	Short term employment opportunities during the construction works.	The socio-economic impacts are deemed to be positive, therefore no mitigation is required.	Residual positive impact, albeit short term. The residual impact is assessed as not significant.	None Required.

TABLE 19.13 – LIKELY INDIRECT / SECONDARY IMPACTS OF GEC RESULTING FROM CCS SOLUTION OPERATION

Impact Type	***Operation Impacts***	***Mitigation***	***Residual Effects***	***Means by which Mitigation will be Delivered***
Noise	Continuous noise from the operation of the CCS Solution.	The CCS Solution will generate noise which will be a similar type and character to GEC. As with GEC, appropriate noise emissions limits will be set for any noise emitting elements to ensure that the standard and criteria for the GEC site are achieved for both the individual and cumulative development.	It is unlikely that there will be any significant residual impacts.	Condition of Consent.
Landscape and Visual	Limited landscape impacts. Visual impacts associated with the proposed CCS Solution.	The CCS Solution will be designed to minimize any landscape and visual impacts. Planting will be instated to screen low level impacts.	It is likely that there will be significant adverse visual impacts, primarily on close proximity residual receptors where they have views towards the CCS Solution. The views will be mainly of the tall elements of the development due to local screening.	Condition of Consent.
Traffic	Negligible traffic movements.	No mitigation proposed.	The residual impact is assessed as not significant.	Condition of Consent.

APPENDIX A

WRITTEN SECTION 36 CONSULTATION RESPONSES

Planning Officer – Matthew Gallagher

Method of Response –	**Online**
Date of Response –	**22 March 2010**
Application Number –	**10/50133/TTGELE**
Responder Name –	**British Pipeline Agency**
Responder Comments – BPA request that the rights of statutory consultation on all planning matters are maintained within our pipeline Area of Interest or easement.	

KD

castlepoint

benfleet | canvey | hadleigh | thundersley

Head of Regeneration and Homes
Castle Point Borough Council
Council Offices, Kiln Road,
Thundersley, Benfleet,
Essex SS7 1TF
Tel: 01268 882200
Fax: 01268 882455
DX: 39603 Hadleigh

Dalton Warner Davis
21 Garlick Hill
London
EC4 2AU

28th April 2010

K. Fisher Extn 2381

Your Ref:

Dear Sir,

GATEWAY ENERGY CENTRE
SECTION 36 ELECTRICITY ACT 1989
SECTION 90(2) TOWN AND COUNTRY PLANNING ACT 1990
APPLICATION FOR CONSENT TO DEVELOP A 900MWe CCGT ELECTRICITY GENERATING PLANT ON LAND AT:
THE MANORWAY, STANFORD-LE-HOPE, ESSEX, SS17 9PD

I refer to the consultation documentation received by this Authority in respect of the above proposal and would thank you for your time and effort in presenting this matter to Officers at a meeting held for such purposes on the 14th April 2010.

I have now had an opportunity to consider this matter and enclose herewith for your information a copy of my response to the Secretary of State.

I trust that this information is of assistance to you

Yours faithfully

Kim Fisher

Chief Development Control Officer

castlepoint

benfleet | canvey | hadleigh | thundersley

Head of Regeneration and Homes
Castle Point Borough Council
Council Offices, Kiln Road,
Thundersley, Benfleet,
Essex SS7 1TF
Tel: 01268 882200
Fax: 01268 882455
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Secretary of State for Energy and Climate Change
c/o G. Mohammed
Manager,
Power Stations and gas pipeline Consents
Area A 3rd Floor,
London,
SW1A 2AW

28th April 2010

K. Fisher Extn 2381

Your Ref:

Dear Sir,

GATEWAY ENERGY CENTRE
SECTION 36 ELECTRICITY ACT 1989
SECTION 90(2) TOWN AND COUNTRY PLANNING ACT 1990
APPLICATION FOR CONSENT TO DEVELOP A 900MWe CCGT ELECTRICITY GENERATING PLANT ON LAND AT:
THE MANORWAY, STANFORD-LE-HOPE, ESSEX, SS17 9PD

I refer to the above application submitted by Gateway Energy Centre Ltd (GECL) and would advise you that after consideration of the submitted documentation, this Authority has no comment to make on the proposal.

I trust that this information is of assistance to you

Yours faithfully

Kim Fisher

Chief Development Control Officer

Directorate of Airspace Policy

Civil Aviation Authority

Mr Gary Mohammed
Department for Energy and Climate Change
Area A
3rd Floor
3 Whitehall Place
London
SW1A 2AW

16 March 2010

Ref ERM/DAP/Planning/GatewayEnergyCentre

Dear Mr Mohammed

Proposed Gateway Energy Centre - Electricity Generating Plant at Manorway, Stanford-Le-Hope, Essex, SS17 9PD

The Civil Aviation Authority (CAA) has been advised of a Section 36 application associated with the Gateway Energy Centre, which seems to equate to an electricity generating plant at Manorway, Stanford-Le-Hope, Essex, SS17 9PD. Having been provided a copy of the associated Environmental Statement, I understand that the Department will seek related CAA comment. I write in anticipation of such a request and trust the following is useful.

Whilst I must concede that the CAA has been unable to allocate resources such that the material provided could be reviewed on a page-by-page basis, I gather that the maximum height of any development associated with the proposed development would be two 75m high chimney-stacks. On that basis, I can advise that the various proposed structures would not formally constitute an aviation en-route obstruction. I have therefore few associated observations other than to highlight the need for the relevant planning authorities to check any safeguarding maps lodged with the council to identify any aerodrome specific safeguarding issues. To that end, I note the relatively close proximity of Southend Airport.

I offer the following additional observations:

- Whilst, given a maximum height of 75m, I can advise that in isolation the CAA would not make any case for associated aviation warning, the Authority would nevertheless support any such case made by other aviation stakeholders such as the Ministry of Defence or a local aerodrome.

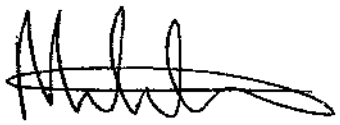
- Due to the unique nature of associated operations in respect of operating altitudes and potentially unusual landing sites, it would be sensible to establish the related viewpoint of local emergency services air support units.

- It is anticipated that the facility would not involve the flaring and venting of gas, either routinely or as an emergency procedure such as to cause a danger to overlying aircraft. If that is not the case parties are invited to use myself as an appropriate point of contact for any further related discussion.

Civil Aviation Authority
CAA House 45-59 Kingsway London WC2B 6TE www.caa.co.uk
Telephone 0207 453 6545 Fax 0207 453 6565 marks.smailes@caa.co.uk

Whilst none of the above negates any aforementioned need to consult in line with Government requirements associated with the safeguarding of aerodromes and other technical sites, I hope this information matches your requirements. Please do not hesitate to get in touch if the Department requires any further comment or needs clarification of any point.

Yours sincerely



Mark Smailes
Off Route Airspace 5

creating a better place

Environment Agency

Department of Energy and Climate Change
Energy Development Unit
Area A, 3rd Floor
3 Whitehall Place
London
SW1A 2AW

Our ref: AE/2010/110230/01-L01
Your ref: 01.08.10.04/462C
Date: 26 April 2010

Dear Mr Mohammed

PROPOSED GAS FIRED POWER STATION, MANORWAY, STANFORD-LE-HOPE.

Thank you for consulting us on the above application under Section 36 of the Electricity Act 1989. We have reviewed the information provided and must object at this stage due to insufficient information being submitted with regards to flood risk and the impacts of the proposed development on local air quality and subsequent detrimental effects on a number of Sites of Special Scientific Interest. Further detailed comments are provided below:

Flood Risk

The application site lies within Flood Zone 3 defined by Planning Policy Statement 25 as having a high probability of flooding. Paragraph D5 of PPS25 requires decision-makers to steer new development to areas at the lowest probability of flooding by applying a 'Sequential Test'. In this instance, Section 3 of the Flood Risk Assessment (FRA) presented in volume 2 of the Environmental Statement provides information pertaining to the PPS25 Sequential Test. It is for you to decide whether this information is sufficient to demonstrate that the Sequential Test has been passed i.e. that there were no reasonably available, alternative sites situated within an area of lesser flood risk that would be appropriate for the type of development proposed.

This development proposal would be classified as 'essential infrastructure' in Table D.2 of PPS25 and as such is compatible with Flood Zone 3 where no other sites in areas of lesser flood risk are available, however the PPS25 Exception Test must also be applied in order to manage the flood risk and ensure that the proposed power station will remain operational. There are three parts to the PPS25 Exception

Test and all three elements must be passed for development to be acceptable. Information has been presented within Section 4 of the FRA and again, it is for you to decide whether this information is acceptable and meets the requirements of PPS25. We are particularly interested in part c which requires the submission of a FRA that demonstrates that the development will be safe, will not increase flood risk elsewhere and where possible, will reduce flood risk overall. We therefore have the following comments to make with regards to the submitted FRA:

Site-specific Flood Risk Assessment

The submitted Flood Risk Assessment completed by Parsons Brinkerhoff Ltd, reference 63628 and dated February 2010, fails to comply with the requirements set out in Annex E, paragraph E3 of PPS25. The submitted FRA does not therefore, provide a suitable basis for assessment to be made of the flood risks arising from the proposed development. In the absence of an acceptable FRA we must object to the proposed development.

In particular, the submitted FRA fails to:

1. Include a breach analysis looking at the residual flood risk associated with a 1 in 200 year (0.5%) and 1 in 1000 (0.1%) tidal event breach inclusive of climate change. The proposed development is classed as "Essential Infrastructure" according to Table D.2 of PPS25, and as such will have to remain operational for the 1 in 1000 year (0.1%) tidal event. The FRA has not fully considered any mitigation measures that could be incorporated into the design of the building.
2. Include a topographical survey, which must be assessed using accurate GPS levels.
3. Consider and identify appropriate finished floor levels for the building to levels mAODN.
4. Include a surface water drainage strategy for this development and how it ties in with the surface water drainage for the overall Port Development.
5. Consider the requirement for flood emergency planning including flood warning and evacuation of people for a range of flooding events up to and including the extreme event as advised by paragraph G12 of PPS25 and paragraph 7.23 of the associated practice guide.

Technical comments

1) It is acknowledged that this development will eventually be protected by the new quay wall associated with the new port development, however this development could be built prior to the completion of the new defence. In addition the development could be impacted on by a breach or failure relating to the existing defence protecting the site. The Report (Section2.2.5) is based upon information on the Scott Wilson FRA completed in 2007 for the Port development, however it is unclear whether the submitted FRA completed its calculations based upon the previous tidal levels or on the current Tidal Thames Extreme water levels dated April 2008.

2) The topographical survey is a requirement of the FRA to show accurate site levels, and to indicate whether there will be any significant land raising associated with the development site and how it will impact on the current landscape.

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3) The FRA should include these levels so that we can assess the feasibility of any proposals for flood risk mitigation measures highlighted in the FRA and to ensure the finished floor levels are dry and safe and include appropriate freeboard.

4) We note in Section 2.6 of the FRA that the drainage for the development will drain via the existing drainage strategy involving swales and drainage ditches as agreed for the Port development. However the details for this application are limited and are not supported by drainage calculations and drawings to show how they fit in with the overall strategy. The surface water drainage should attenuate all run-off to the greenfield run-off levels for the 1 in 1 to the 1 in 100 year rainfall event, inclusive of climate change.

5) Section 2.8 of the Report considers some aspects of the "Emergency Evacuation plan" for the site, but without enough details for us to comment on. It should however be noted that we do not normally comment on, or approve, the adequacy of flood emergency response and evacuation procedures accompanying development proposals as we do not carry out these roles during a flood. Our involvement with this development during an emergency will be limited to delivering flood warnings to occupants/users.

Planning Policy Statement 25 and the associated Practice Guide (paragraphs 7.23 to 7.31) places responsibilities on decision makers to consult Emergency Planners with regard to specific emergency planning issues relating to new development. In all circumstances where warning and evacuation are significant measures in contributing to managing flood risk, we will expect decision makers to formally consider the emergency planning and rescue implications of new development in making their decisions.

Ecology

We have reviewed Section 12 of the submitted Environmental Statement (ES) and are aware that the years of ecological survey work and mitigation for the London Gateway Port site means that the ecology of the footprint of the power station and associated buildings is well understood. It will be essential, as the ES states, that in advance of any construction works associated with this proposal, a programme of remediation and clearance works must be undertaken. We are satisfied that this programme will alleviate the main destructive impacts of the development on protected species such as water voles and have no further comments to make on this. We do however have some concerns regarding the proposed development on local air quality and must object to the proposals at this time for the following reasons:

The government's objectives for planning in PPS9 are to promote sustainable development, and it is implicitly stated that development proposals should "*provide many opportunities for building-in beneficial biodiversity or geological features as part of good design*". However, page 169 of the ES states that "*...the land within the GEC site footprint will be cleared of all buildings, and vegetation, levelled and provided to GEV, devoid of any ecological interest*".

Whilst it is necessary for the site to be cleared of protected species, as agreed as part of the overall London Gateway Port (LGP) development, we are disappointed that more effort has not been made to reinstate ecological interest on site in line with PPS9. The Design and Access Statement of the ES does state an intention to

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provide a 'brown roof' on the administration block (page 41), but we feel that opportunities should be better developed if the intention is to create "*A range of exciting architectural design solutions*" combined with "*A development which is dynamic in form*" to provide "*A positive response to the context of the site and its surroundings*".

The LGP site contains a nationally important invertebrate assemblage associated with brownfield habitat and as such it would be highly desirable to retain some of this invertebrate assemblage on the site. Given the constraints imposed on the available land area due to the necessarily sterile carbon capture area and power station buildings, a green roof on the administration block would demonstrate a high level of sustainability and provide 6,870 m^2 of potential brownfield habitat. Green roofs also provide some water storage capacity and can be linked to the inclusion of Sustainable Drainage Systems (SuDS) within the development footprint. Given the lack of clarity on the design of SuDS on the site, it is therefore crucial that a detailed plan is provided on the drainage network, hopefully incorporating at least one green roof. Green roofs also have the additional benefits of rainfall absorption and can keep a building cool in summer, therefore reducing air conditioning costs, and warmer in winter, reducing energy consumption on site.

Our second ecological concern stems from the contradictory assessment of the Impact of air pollution on Thundersley Great Common SSSI. In Section 12.1.6 of the ES it is stated that "*Impacts of a low magnitude of significance are expected to occur on one Statutory Ecological Designated Site; Thundersley Great Common SSSI to the north east of the GEC site*". However, in the next sentence it is implied that the impact will be more significant "*However this potentially significant impact prediction is based on a worst case operational mode that is unlikely to occur*" in a worst case scenario. Given these contradictory statements, it is especially worrying that in Section 12.7.12, it is stated that "*Although measures to minimise atmospheric pollution are included within the design of GEC, it has been predicted that there will be a significant adverse impact during the operational phase on Thundersley Great Common SSSIs. It is important to recognise however that this prediction assumes a worst case operational scenario of the plant operating at 100 per cent load for the 93 per cent of the year that the plant is available. In practice the plant is unlikely to operate for this proportion of the year and the impact is considered to be an over prediction of the true impact that will be encountered during the operation of the GEC. As such no mitigation is proposed for this impact though GEC propose an on going dialogue with regard to impacts to this receptor with the relevant authorities*".

Despite the admission that there will be a significant adverse impact during the operational phase on the SSSI, it is surprising that no mitigation is proposed and only scant assurance is given that the worst case scenario is unlikely to occur. Given the potential need for an environmental permit for the activities at a later date, we believe that it is not acceptable to state that no mitigation is to be provided for the adverse impacts of NOx and nitrogen deposition on the SSSI, which is currently in unfavourable recovering condition according to Natural England's assessment. We require assurances about likely restrictions that could be imposed to ensure that the worst case scenario does not occur. Monitoring of pollutants at the SSSI will also be necessary to ensure that the power station emissions are having no detrimental impact on the quality of the receptor.

It is also highlighted in Section 12.6.29 that "*The critical levels for nitrogen deposition are currently being exceeded at four of the ten statutory designated sites included within this assessment. These are: Vange and Fobbing Marshes SSSI; Northward*

Cont/d..

Hill SSSI; Chattenden SSSI; and, Thundersley Great Common SSSI. Any increase in nitrogen deposition due to the GEC scheme would therefore continue to exceed the critical levels". It must therefore be inferred that significant pressure is already being placed on the Valued Ecological Receptors (VERs) in the area, the above sites being of national importance for their wildlife. The stated intent to continue to exceed critical levels ensures that atmospheric pollution will continue to place pressure on these receptors even though the likely increases are small.

In light of the above, it must be demonstrated that the significant adverse impacts as a result of increases in atmospheric pollution can be mitigated against so that there will be no long-term detrimental effect on any SSSIs in the area.

Contaminated Land

The site of the proposed development is part of the former Shell Haven Oil Refinery site which has been shown to be affected by contamination, including some free phase hydrocarbons, associated with its previous use. The Environmental Statement, Section 14.1.1 states, "*A program of remediation is to be undertaken across the site prior to re-development works. Remediation validation reports will be produced as documentation of the works undertaken with the works undertaken to a standard such that the site can be developed for use as a power generating facility*".

In that regard, the site of the former refinery has been subject to some investigation and remediation, and although the site is located on Minor Aquifer, the associated groundwater is likely to be protected by overlying tidal flat deposits of clay and silt. However, any development works on the application site must be undertaken with due care for the possible presence of contamination, particularly free phase hydrocarbons, that may pose a risk to controlled waters (Groundwater and surface water).

Therefore, to ensure the application site is subject to further investigation and remediation as necessary, particularly with respect to the possible presence of free phase hydrocarbons and the potential threat to controlled waters, we would request that the following conditions are appended to any approval granted:

Condition

Prior to the commencement of development as approved under Section 36 of the Electricity Act 1989 (or such other date or stage in development as may be agreed in writing with the local planning authority), the following components of a scheme to deal with the risks associated with contamination of the site shall each be submitted to and approved, in writing, by the local planning authority:

1. A preliminary risk assessment which has identified:
   - all previous uses
   - potential contaminants associated with those uses
   - a conceptual model of the site indicating sources, pathways and receptors
   - potentially unacceptable risks arising from contamination at the site.
2. A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.

Cont/d..

3. The site investigation results and the detailed risk assessment (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.
4. A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

Any changes to these components require the express consent of the local planning authority. The scheme shall be implemented as approved.

Reason

To ensure that the proposed development does not cause pollution of Controlled Waters and that development complies with approved details in the interests of protection of Controlled Waters.

Informative

This condition has been recommended as we are satisfied that there are generic remedial options available to deal with the risks to controlled waters posed by contamination at this site. However, further details will be required in order to ensure that risks are appropriately addressed prior to development commencing.

In line with the advice given in PPS23 we understand that you must decide whether to obtain such information prior to determining the application or as a condition of the permission. Should you decide to obtain the necessary information under condition we would request that this condition is applied.

Condition

Prior to [commencement of development]/ [occupation of any part of the permitted development], a verification report demonstrating completion of the works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a "long-term monitoring and maintenance plan") for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan, and for the reporting of this to the local planning authority.

Reason

To ensure that the proposed development does not cause pollution of Controlled Waters and that development complies with approved details in the interests of protection of Controlled Waters.

Condition

Reports on monitoring, maintenance and any contingency action carried out in accordance with a long-term monitoring and maintenance plan shall be submitted to

Cont/d..

the local planning authority as set out in that plan. On completion of the monitoring programme a final report demonstrating that all long- term site remediation criteria have been met and documenting the decision to cease monitoring shall be submitted to and approved in writing by the local planning authority.

Reason

To ensure that the proposed development does not cause pollution of Controlled Waters and that development complies with approved details in the interests of protection of Controlled Waters.

Condition

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until the developer has submitted, and obtained written approval from the local planning authority for, an amendment to the remediation strategy detailing how this unsuspected contamination shall be dealt with.

Reason

To ensure that the proposed development does not cause pollution of Controlled Waters and that development complies with approved details in the interests of protection of Controlled Waters.

Informative

For development involving piling or other penetrative ground improvement methods on a site potentially affected by contamination a suitable Foundation Works Risk Assessment based on the results of the site investigation and any remediation, should be undertaken. This assessment should underpin the choice of founding technique and any mitigation measures employed to prevent the process promoting the movement of contamination into the underlying aquifer or impacting surface water quality.

Pollution Control

We have no objection to the proposals on pollution prevention grounds subject to the following conditions being appended to any approval granted:

Condition

The development hereby permitted shall not be commenced until such time as a pollution prevention scheme has been submitted to, and approved in writing by, the local planning authority. The scheme shall be implemented as approved.

Reason

To prevent the pollution of controlled waters in accordance with the Water Resources Act 1991.

Cont/d..

Advice to applicant

We would recommend that the following advice is incorporated into the pollution prevention scheme as a minimum:

1. Vehicle loading or unloading bays and storage areas involving chemicals, refuse or other polluting matter shall not be connected to the surface water drainage system;

2. Any facilities, above ground, for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound should be at least equivalent to the capacity of the tank plus 10%. All filling points, vents, gauges and sight glasses must be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipework should be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets should be detailed to discharge into the bund.

Waste Management

Waste arising from the development must be re-used, re-cycled or otherwise disposed of in accordance with waste management legislation and in particular the Duty of Care.

The government and construction industry have a target to halve waste to landfill by 2012, the management of waste should therefore be considered as early as possible during the property design phase to ensure that minimal volumes of waste arise during the construction of the development, and the demolition at the end of its life. This can include measures such as preventing the over-ordering of materials, reducing damage to materials before use by careful handling and segregating waste on site into separate skips. The developer should consider how they will incorporate recycled/recovered materials into the building programme, including the use of secondary and recycled aggregates, and re-use of any on-site demolition waste.

We would suggest that the developers consult the following websites for ideas and further information: http://www.wrap.org.uk and http://www.tcpa.org.uk/pages/towards-zero-waste.html

Where the development will require the preparation of a Site Waste Management Plan in accordance with the Site Waste Management Plan Regulations 2008, please note that we strongly recommend the use of the BRE's SMARTWaste Plan. Please see http://www.smartwaste.co.uk for further information

Environmental Permitting

The proposed power station will require an application under EPR for a Permit to operate. As per usual procedure, the EPR application will be assessed when it is received and it is difficult to make any assessments at this stage based upon the Electricity Act application. However, there are three issues that we feel are worth raising at this stage as they could impact upon the ability of the proposed power station to achieve a permit:

Cont/d..

1. The assessment of impacts on air quality has not taken into account the proximate significant emitters at Coryton Energy Company Ltd and PetroPlus Refining & Marketing Ltd. It would be more appropriate to include these sources in the air quality modelling. It should be noted that this might have further implications for the ecology assessment (please see above).

2. The area set aside for Carbon Capture Readiness is small when compared with the DECC guidance in URN 09D/810. The application quotes from paragraph 13 of this guidance in section 5.1.2 of the CCR Feasibility Study, however it fails to take account of paragraph 14 and Table 1. The table indicates that the area required for CCR is likely to be some 190% of the area for the generating equipment; the proposal in the application merely allows 70% (less than 40% of the recommendation).

3. The CHP Assessment document seems to pay only cursory attention to the requirements for CHP. The provision of any future CHP is proposed to be sourced from auxiliary boilers; it is our contention that this will not be acceptable as Best Available Technology. The power station is to be constructed within a development complex that would seem perfect for the exploitation of CHP; however, there is no consideration given to providing a distribution network such that the Gateway development sources all its CHP requirements from the new power station. The Assessment does acknowledge the recommendation in the DECC Guidance document to consider all potential users within 15 km; however, there appears to be no consideration of areas in Southend and Kent.

Sustainable Development

With new information becoming available on the impacts of climate change it is important that the proposed development is carried out in as sustainable manner as possible. With this in mind, the highest possible standards of sustainable construction and design should be incorporated. This would be in line with the objectives of Planning Policy Statement 1.

We would therefore request that you pursue a high level of sustainability to be incorporated into the design, construction, operation and decommissioning of this facility. Increased water efficiency will directly reduce consumer water and energy bills and reduce carbon dioxide emissions. Non-residential developments often offer the greatest opportunities for reducing water demand and we therefore seek that all non-residential development across the Thames Gateway achieves maximum points for water in the BREEAM and achieves an excellent rating overall.

Informatives

Erection of flow control structures or any culverting of a watercourse requires the prior written approval of the Environment Agency under s.23 of the Land Drainage Act 1991 or s.109 of the Water Resources Act 1991. The Environment Agency resists culverting on nature conservation and other grounds and consent for such works will not normally be granted except for access crossings.

Our consent under Schedule 10 of the Water Resources Act 1991 will be required for any discharge of sewage or trade effluent to controlled waters.

Cont/d..

If waste material is to be used to raise the level of the land for this development then the operator will require an Environmental Permit. We would direct them to our website for further information:
http://www.environment-agency.gov.uk/business/topics/107355.aspx

Should you require further information, or have any queries, please feel free to contact me. My details are provided below.

Yours faithfully

Miss Carrie Williams
Planning Liaison Officer

Direct dial 01473 706007
Direct fax 01473 271320
Direct e-mail carrie.williams@environment-agency.gov.uk

cc Dalton Warner Davis

End

Planning implementation Committee

Date: **30 April 2010**

Item: **4**

Subject: **Department of Energy & Climate Change - (Ref: 01.08.10.04/462C) Proposed Gas Fired Power Station at the Manorway, Stanford-le-Hope, Essex (SS17 9PD).**

Contact: James Cutting. Team Leader – Implementation and Delivery
Tel: 01284 729434
E-mail: james.cutting@eelga.gov.uk

Purpose

To give a response to the above planning application.

Recommendation

It is recommended that the comments in this report constitute the East of England LGA's formal response to the Department for Energy & Climate Change (DECC).

---

1. Introduction

1.1 In February 2010, Gateway Energy Centre Limited (GECL) applied to the Secretary of State for his consent under section 36 of the Electricity Act 1989 for the construction and operation of a 900 Megawatt (MW) combined cycle gas-turbine (CCGT) electricity generating station and associated infrastructure at the Manorway, Stanford-le-Hope, and for a direction under section 90(2) of the Town and Country Planning Act 1990 that planning permission for the development be deemed to be granted.

1.2 In a letter dated 3 March 2010 they advised the Regional Assembly of the proposal and invited them to submit any comments they had before the 4 May 2010.

1.3 With the enactment of the Local Government, Economic Development and Construction Act 2009 and the Consequential Amendments (SI 2010/602), local planning authorities must consult with the responsible regional authority before determining certain planning applications. When acting jointly with the Regional Development Agency (EEDA), The East of England Local Government Association is one of the Responsible Regional Authorities (RRAs) charged with keeping the regional strategy under review. The Shadow Regional Strategy Board agreed on 5 March 2010 to a continuation of existing arrangements until a more detailed review is made of responses to planning applications.

1.4 Details of this proposal can be found at: http://www.gatewayenergycentre.co.uk/

2. The Proposal

2.1 The site is part of a 240 hectare (593 acre) area which was formerly the Shell Haven Refinery, and now a cleared site. This wider site has permission for a road and rail linked logistics and commercial centre associated with the London Gateway Port. The site extends to some 11.3 ha (28 acres) in total comprising 6.6 ha for the main buildings and 4.7 ha north of the main site for the potential installation of carbon capture equipment.

2.2 The power station, known as Gateway Energy Centre (GEC), would be powered by natural gas. The associated infrastructure will be subject to separate applications and include:

- electrical connection and sub station to link with the national grid;
- underground gas supply pipeline and Above Ground Installation (AGI) connecting the power station to the gas National Transmission System (NTS);
- the potential heat distribution network, and
- infrastructure to allow the station to be "carbon capture ready".

2.3 The electrical connection may be through a new transmission line, underground cable or a mixture of both. A separate gas supply to the proposed power station is required and two potential routes are proposed. The AGI is likely to be situated near to that that serves the existing power station - close to St. Clere's Golf Course, west of the site.

2.4 The potential for Combined Heat and Power (CHP) is being explored; the users and design of network are unknown. The CHP Assessment includes a review of consultees and potential users including the London Gateway Port and associated business park, the Petroplus Oil Refinery, Ford Motor Company (Dunton), Basildon Hospital and a local community heat network.

2.5 The detailed design of the proposals have not been completed and will not be certain until construction contracts are in place. However, the design and access statement provides an indication of likely appearance of the power station.

2.6 The power station will be subject to separate environmental regulation under the Environmental Permitting (England and Wales) Regulations 2007 and the EU Large Combustion Plants Directive (LCPD).

2.7 The site is also close to the existing Coryton Power Station which is operated by Coryton Energy Company Limited (CECL) a company affiliated to GECL, both being owned subsidiaries of InterGen NV.

3. Planning Policy

3.1 Regional planning guidance for Thurrock and the Essex Thames Gateway is set out in the East of England Plan (May 2008). The remaining six saved policies of the Essex and Southend-on-Sea Structure Plan include a policy on proposals for new powers stations (EG1) which states:

Proposals for new power stations must be justified on the basis of an identified need for additional generating capacity and should be located on sites which:-

1. Are within industrial areas of the main urban areas, or within or adjoining existing power station sites, so as to minimise their impact upon the undeveloped coast and countryside. Proposals will not be permitted on remote isolated sites within the countryside and the undeveloped coast;

2. Would not have a materially adverse impact on local environments of special value. Such proposals will not be permitted within Areas of Outstanding Natural Beauty, the Coastal Protection Belt, statutorily protected nature conservation sites, historic settlements, or where there would be a materially adverse impact upon landscape character or buildings/areas of architectural, historic or archaeological importance;

3. Are well related to existing electricity supply infrastructure for the distribution of their electricity output;

4. Enable the supply of raw materials and disposal of waste to be transported by water, rail or pipeline rather than by road. Where transport by road is unavoidable, appropriate traffic management agreements will be implemented;

5. Do not have a materially adverse impact on adjoining land-uses by reason of pollution, noise, loss of visual amenity, or risk to public health and safety.

3.2 Local planning guidance is set out in the Thurrock Borough Local Plan 1997. Policy E8 applies consideration for new development associated with oil refineries. The submission core strategy (2010) allocates the London Gateway Port and Logistics Park for strategic employment.

4. Comments

4.1 Provided the proposal satisfies the environment requirements (which depend on the opinions of other organisations) and does not impinge on the development of Thurrock as a leading logistics centre, the proposed power station is consistent with the East of England Plan. Further detail on and commitment to the sustainable use of waste heat is necessary to justify this choice of location over others that may have greater potential for CHP.

5. Recommendations

5.1 The Committee is asked to accept the recommendation that the comments in this report constitute the East of England LGA's formal response to planning application.

PLANNING APPLICATION CHECKLIST **Appendix A**

PART ONE – DOCUMENT INFORMATION

PLANNING AUTHORITY	**Department for Energy & Climate Change**
LOCATION	**The Manorway, Stanford-le-Hope, Essex, SS17 9PD**
PURPOSE	**Construction and Operation of a 900MWe Gas Fired Power Station**
APPLICATION REFERENCE	**01.08.10.04/462C**
STAGE (FULL or OUTLINE)	**Section 36 - Electricity Act 1989**
CLOSING DATE FOR COMMENTS	**4 May 2010**

PART TWO – GENERAL POINTS

QUESTION	ANSWER	COMMENTS
Does the application site lie within the East of England region?	Yes	
Are references to the East of England Plan correct?	Yes	
Is this application considered to be of regional significant?	Yes	The application is to be determined under Section 36 of the Electricity Act (to be considered by the Secretary of State) rather than Section 37 of the Planning Act 2008 (to be considered by the Infrastructure Planning Commission)
Does the application site lie within a Key Centre for Development and Change or any other area of specific importance?	Yes	The site is within the Essex Thames Gateway (a priority area for regeneration – SS5) and on a site allocated for strategic employment benefiting from outline planning permission for a major logistics and commercial centre.

Question	Regional Policy	Applicant's Reference *	Comments
			To meet the requirements of ENG1 for low-carbon or renewable sources, the buildings would need to secure at least 10 per cent of energy consumed through these sources. This could include the heating (water and space) as part of the CHP scheme.
Will this application have any impact upon water resources?	WAT1-3	ES 13, 14 13.6.1-39	Rainwater harvesting and process water re-use should be fully considered as the design is developed. The presence of an on-site treatment plant and water storage should provide an opportunity to incorporate these measures.
Is flood risk any issues?	WAT4	ES Vol.2	The site is within Flood Zone 3a - e.g. at risk of flooding if flood defences are not present - with tidal surges presenting the most significant risk. The existing defences provide protection for even a 1 in 1,000-year event and will be increased as part of the London Gateway Development. Should the London Gateway Port not proceed (and the improvements not made) and site needs further defences, there is a potential for the proposal to conflict with policy SS9.
Does the application address waste management issues?	WM6		Policy WM6 urges major developments to incorporate innovative approaches to waste management.

PART FOUR – OVERALL ASSESSMENT

QUESTION	ANSWER	COMMENTS
Does this application accord with the overall objectives and policies set out in the East of England Plan?	Yes	Provided the proposal satisfies the environmental requirements (which depend on the opinions of other organisations) and does not impinge on the development of Thurrock as a leading logistics centre, the proposed power station is consistent with the East of England Plan. Further detail on and commitment to the sustainable use of waste heat is necessary to justify this choice of location over others that have greater potential for CHP.

Essex*Works*.

For a better quality of life

Essex County Council
Environment, Sustainability and Highways
County Hall
Chelmsford
Essex CM1 1QH

Secretary of State for Energy and Climate Change
c/o Gary Mohammed
Manager, Power Stations and Gas Pipeline Consents
Department for Energy and Climate Change
Area A, 3rd Floor
3 Whitehall Place
London
SW1A 2AW

Our ref: A/HEM/614/10

Date: 22nd March 2010

Specialist Archaeological Advice

Dear Mr Mohammed

10/50133/TTGELE: Land At The Manorway, Stanford-le-Hope, Essex, SS17 9PD

The Historic Environment Team of Essex County Council has identified the above application on the Thurrock Thames Gateway weekly list. This office has been advised to write direct to you as the determining authority.

The Historic Environment Record shows that the proposed development lies within a potentially sensitive area of historic marshland which has had considerable study undertaken due to the proposed port facility at London Gateway. The desk based archaeological submitted with the application fails to provide an appropriate or detailed assessment of the archaeological implications of the proposed power station. The present desk based assessment fails to use the extensive archaeological work previously undertaken by Oxford Archaeology Unit on the London Gateway Development Area. Early consultation is identified under section 2.2.6, however, this has not happened either with ourselves as advisors to Thurrock Council or more importantly to the archaeological consultant and archaeological contractor of DP World. .

It would be the recommendation of this office that the archaeological consultants need to discuss this application in association with both the archaeological consultant of DP World and their archaeological contractors. The most appropriate person to contact in the first instance would be Marcus Pearson of DP World (marcus.pearson@dpworld.com).

The recommendation within the EIA for a watching brief to be undertaken during development is inappropriate for this development and the archaeological requirements will need to be reconsidered. As this development lies within the DP World site the basic archaeological evaluation work has been completed, although not included within the desk based assessment. Therefore the following condition, if

the development is given permission, is recommended being based on that given in the DoE Planning Policy Guidance 16 :Archaeology and Planning (PPG 16).

RECOMMENDATION:

"No development or preliminary groundworks of any kind areas shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant, and approved by the planning authority."

Further recommendations:

In the first instance the work undertaken for the EIA needs to be brought up to an appropriate archaeological standard to include all of the archaeological investigations undertaken by the DP World archaeologists. This information will allow a detailed assessment to be produced defining the archaeological implications of the proposed development and allow appropriate mitigation strategies to be agreed.

If you have any questions please do not hesitate to contact me.

Yours sincerely

Richard Havis
Senior Historic Environment Officer

Telephone: 01245 437632
Fax: 01245437213
Email: richard.havis@essex.gov.uk

Essex County
Fire & Rescue Service

Mr David Johnson LL.B(Hons), BSc, MA, MSc, FCMI
Chief Fire Officer & Chief Executive

Planning Development Officer
Thurrock Thames Gateway Development Corporation
Gateway House
Stonehouse Lane
Purfleet
Essex
RM19 1NX
For the attention of Matthew Gallagher

UNCLASSIFIED

THURROCK & BRENTWOOD COMMUNITY COMMAND
C/O Grays Fire Station
Hogg Lane
GRAYS
RM17 5QS
☎ 01375 376625
☎01375 396467
✉ tb.command@essex-fire.gov.uk

Date: 09 March 2010
Our Ref: GW/JF/66/1540
Your Ref: 10/50133/TTGELE
Enquiries to: Station Officer Glenn Whellams

Dear Sir

Town and Country Planning Act 1990
Town & Country Planning (General Procedure Development) Order 1995
Essex Act 1987
Premises: Land at the Manorway Stanford-Le-Hope Essex SS17 9PD
Proposal: Construction of 900mw Combined Cycle Gas Turbine Electricity Generating Station

Further to your letter of 5th March 2010 regarding the above mentioned proposed development the following observations are set out below for your information:-

Access

It is not possible to ascertain at this stage if access for Fire Service purposes is satisfactory as Essex Fire Authority is not currently in the position to accept electronic plans/submissions and it has not therefore been able to accurately scale from those within the supplied link, to confirm compliance. However, more detailed observations on access and facilities for the Fire Service will be considered at Building Regulation consultation stage should approval be given. This may include the ability to operate high reach appliances and to provide fire appliance access to within 18 metres of any dry riser inlets that might be required.

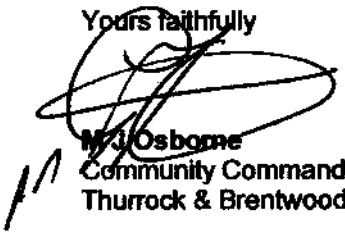
Water

As this consultation is in respect a proposed new development, there may be implications in respect of Water Supplies for Fire Fighting purposes and therefore this letter has been forwarded to our Water Services Section to consider if additional hydrants/mains etc may be required

The architect, design team or applicant are therefore reminded that additional water supplies for fire fighting may be necessary for this development and are urged to contact the Water Technical Officer at Telephone 01277-222275.

Should you wish to discuss any issues raised please do not hesitate to contact the above named Officer.

Yours faithfully



M.J.Osborne
Community Commander
Thurrock & Brentwood Command

Cc. Water Services Section

Essex County
Fire & Rescue Service

Mr David Johnson LL.B(Hons), BSc, MA, MSc, FCMI
Chief Fire Officer & Chief Executive

UNCLASSIFIED

Planning Development Officer
Thurrock Thames Gateway Development Corporation
Gateway House
Stonehouse Lane
Purfleet
Essex
RM19 1NX
FTAO Matthew Gallagher

Hutton Site
Rayleigh Close
Hutton
Essex
CM13 1AL
Tel: 01277 222531
Fax: 01277 226087
www.essex-fire.gov.uk

Date Received (by):
15 MAR 2010
Thurrock Thames Gateway Development Corporation

Our ref : H26/14/1 (8661)
Your ref : 10/50133/TTGELE

12th March 2010

Enquiries to: **Tony Pizzala**
Ext: **2275**
DDI : **01277 239331**
tony.pizzala@essex-fire.gov.uk

Dear Sir

Re: Proposed Construction of Gas Turbine Electricity Generating Station
Land at Manorway, Stanford-Le-Hope, Essex

Further to my colleague' s letter dated 9th March 2010 in connection with the above; I write to confirm the following with regards to water supplies for fire fighting.

Additional hydrants will be required for the proposal at positions to be agreed. The mains sizing and location of the hydrants should be the subject of discussions with the Water Technical Officer of this Fire Authority.

Yours faithfully

Tony Pizzala
Water Technical Officer

cc: Stn/O Glenn Williams, Thurrock & Brentwood Community Command

ESSEX POLICE

Chelmsford, Essex CM2
Telephone 0300 333 44
Website: www.essex.police.uk
Facsimile: 01245 452396

KD

Dalton Warner Davis LLP,
21 Garlick Hill,
London
EC4V 2AU

Our Ref: ALO/10/GEN/71

Date: 08 April 2010

Dear Sir/Madam,

Re: 10/50133/TTGELE
Location: Land at the Manorway, Stanford-Le-Hope, Essex SS17 9PD.

We have been advised by the Director of Planning of your application to carry out development at the above location.

You are invited to consider the use of the Architectural Liaison Service in respect of the proposed plans, in order that any potential crime risk in either design or location be identified and dealt with at the earliest opportunity.

May I suggest that a meeting with your representative be arranged at an early stage to identify any potential risks in the proposed development and investigate the preventative steps that should be taken to remove the risk and enhance community safety.

Information on attaining Secured by Design Certification on your proposed development can be viewed and downloaded from the SBD web site. www.securedbydesign.com

You may contact the admin office at the above address on Ext: 51061 or email the following address: Architectural.Liaison@essex.pnn.police.uk for all general enquiries.

For all other enquires or to make an appointment contact either John on mobile number 07801461715 or Heather on 07801461714.

Yours faithfully

pp. **Architectural Liaison Department**
HQ TERRITORIAL POLICING

KD

ESSEX & SUFFOLK WATER

Sandon Valley House, Canon Barns Road,
East Hanningfield, Essex, CM3 8BD
Telephone: +44 (0) 845 782 0333
Fax: +44 (0) 1268 664 397
Website: www.eswater.co.uk

Secretary of State for Energy and Climate Change,
c/o Gary Mohammed,
Manager,
Power Station and Gas Pipeline Consents,
Area A,
3rd floor,
London SW1A 2AW

25th March 2010

Dear Sir,

Gateway Energy Centre, Stanford-le-Hope, Essex SS17 9PD

I am responding to the consultation on the application to build and operate a 900 MWe CCGT Electricity Generating Plant at Land at the Manorway, Stanford-le-Hope, Essex SS17 9PD. Essex & Suffolk Water have no objections to the construction and operation of this proposed development.

As potable (drinking) water provider to this proposed development, we wish to make clear that we have sufficient water resources to fully service the development, without any requirement for delaying or phasing of the development.

If you require any further information from us, we would be pleased to provide it.

Yours faithfully,

Martin Lunn
Supply Demand Strategy Manager

Cc Dalton Warner Davis,
21, Garlich Hill,
London EC4V 2AU

GO-East

GOVERNMENT OFFICE
FOR THE EAST OF ENGLAND

Gary Mohammed
Manager, Conventional Power Station and Pipeline Consents
Department of Energy & Climate Change
Energy Development Unit
Area A, 3rd Floor
3 Whitehall Place
London
SW1A 2AW

Andrew Edwards
Development & Infrastructure
Eastbrook
Shaftesbury Road
Cambridge
CB2 8DF

Tel: 01223 372705
GTN: 3841 2705
Fax: 01223 372862
Internet email:
Andrew.edwards@goeast.gsi.gov.uk
Website: http://www.goeast.gov.uk

Our Ref: E1/L1500/02/09
Your Ref: 01.08.10.04/426C

24 March 2010

Dear Mr Mohammed

PROPOSED GAS FIRED POWER STATION AT THE MANORWAY, STANFORD-LE-HOPE, ESSEX SS17 9PD.

Thank you for your letter and enclosures of 3 March 2010. I am afraid we are unable to comment on this, or any other planning application, as it may come before the Secretary of State and we would not wish to prejudice his consideration of the planning issues involved.

Yours sincerely

ANDREW EDWARDS
Planning Casework Team

Health and Safety Executive
Hazardous Installations Directorate

Thurrock Thames Gateway
Development Corporation
Gateway House
Stonehouse Lane

Essex

RM19 1NY

Your Ref: s.36 - Gateway Energy Centre

Our Ref: TTGDC.1460-2010-00010

03 March 2010

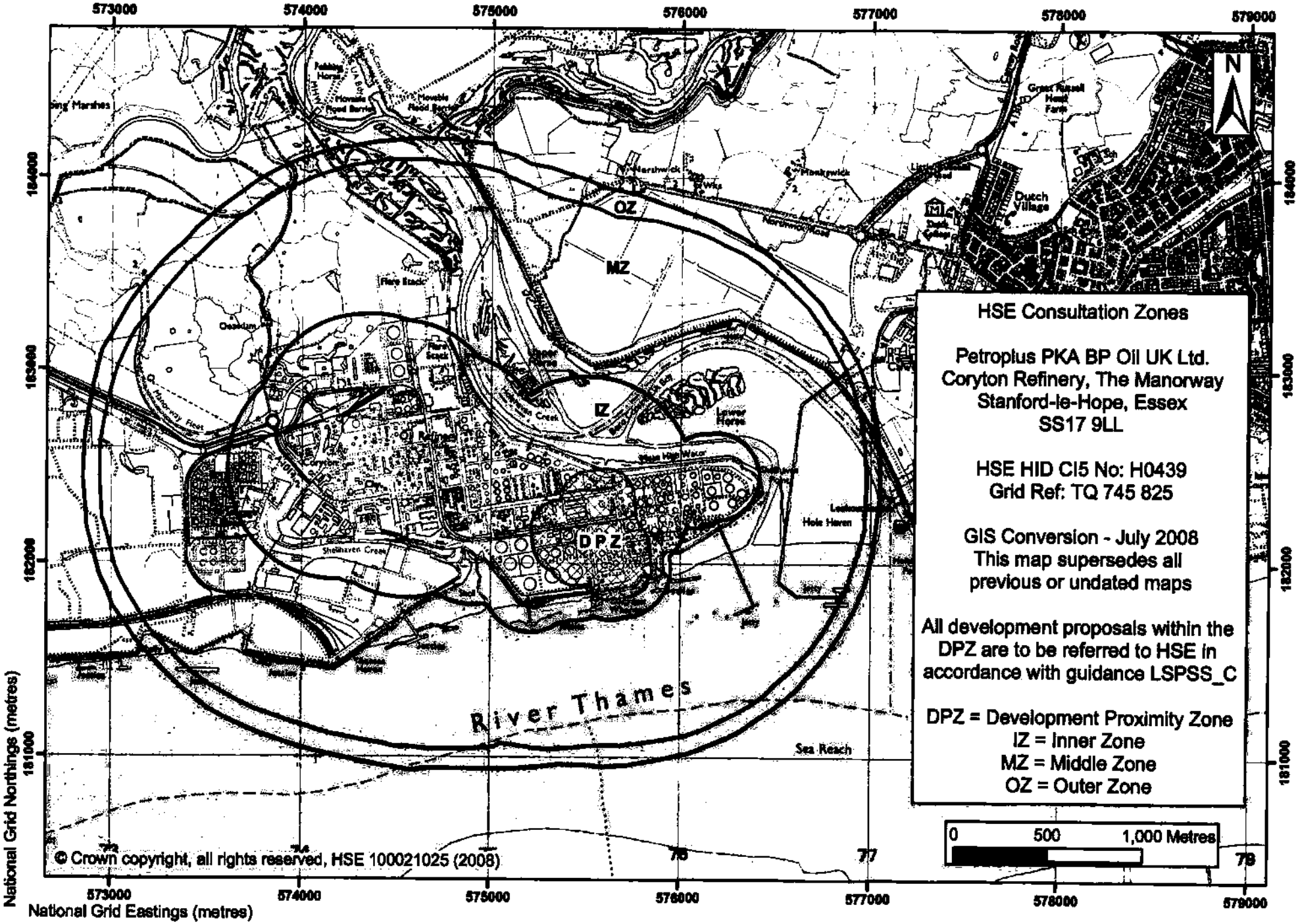
HSE advice produced by PADHI+ for Thurrock Thames Gateway Development Corporation

Land Use Planning Consultation with Health and Safety Executive [Town and Country Planning (General Development Procedure) Order 1995 (as amended), or Town and Country Planning (General Development Procedure) (Scotland) Order 1992 (as amended)]

This HSE advice refers to the proposed development CCGT Electricity Generating Station at The Manorway, input into PADHI+ on 03 Mar 2010 by Thurrock Thames Gateway Development Corporation.

The Health and Safety Executive (HSE) is a statutory consultee for certain developments within the Consultation Distance of major Hazard sites/ pipelines. This consultation, which is for such a development and also within at least one Consultation Distance, has been considered using PADHI+, HSE's planning advice software tool, based on the details input by Thurrock Thames Gateway Development Corporation. Only the installations, complexes and pipelines considered by Thurrock Thames Gateway Development Corporation during the PADHI+ process have been taken into account in determining HSE's advice. Consequently, **HSE does not advise, on safety grounds, against the granting of planning permission in this case.**

This advice is produced on behalf of the Head of the Hazardous Installations Directorate, HSE.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Dutch Village
Shellhaven Creek
Hole Haven
River Thames
Sea Reach
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HSE Consultation Zones
Petroplus PKA BP Oil UK Ltd.
Coryton Refinery, The Manorway
Stanford-le-Hope, Essex
SS17 9LL
HSE HID CI5 No: H0439
Grid Ref: TQ 745 825
GIS Conversion - July 2008
This map supersedes all previous or undated maps
All development proposals within the DPZ are to be referred to HSE in accordance with guidance LSPSS_C
DPZ = Development Proximity Zone
IZ = Inner Zone
MZ = Middle Zone
OZ = Outer Zone
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© Crown copyright, all rights reserved, HSE 100021025 (2008)
National Grid Northings (metres)
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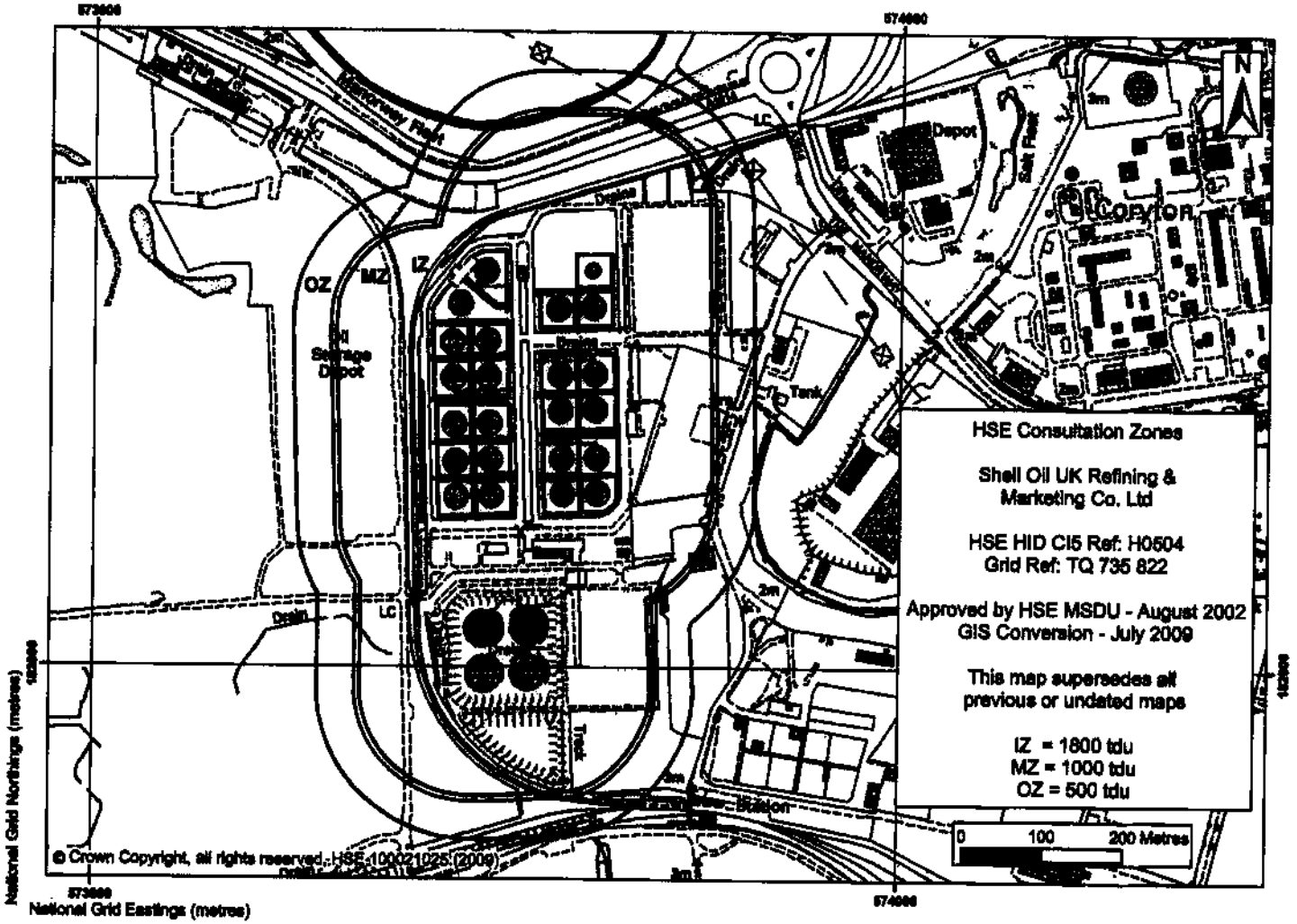
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Grid Ref: TQ 735 822
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Depot
Tank
Station
Drain
Track
Coryton
© Crown Copyright, all rights reserved. HSE 100021025 (2009)
National Grid Eastings (metres)
National Grid Northings (metres)

HSE

Health and Safety Executive

Hazardous Installations Directorate

Paul Elliott

Chemical Industries Division
Wren House
Hedgerows Business
Colchester Road
Chelmsford
CM2 5PF

Tel: 01245 706228
Fax: 01245 706260
paul.elliott@hse.gsi.gov.uk

http://www.hse.gov.uk/chemicias

Principal Inspector
Mr Peter Hornsby

Dalton Warner Davis
21 Garlick Hill
London
EC4V 2AU

Attention Mr Keith Dalton

Date 15 March 2010

Our ref HID CI3A/pe

Your ref KD/CB/2746D

Dear Sir

PROPOSED 900 MW CCGT ELECTRICITY GENERATING PLANT
THE MANORWAY, STANFORD LE HOPE, ESSEX

Thank you for your letter and enclosures dated 9 March 2010.

The proposed gas fired power station is within the consultation distances of Shell UK Oil Ltd, Shellhaven and Petroplus Refining & Marketing Ltd, Coryton Refinery, Stanford le Hope. However, the Health & Safety Executive would not wish to advise against the siting of the proposed development on grounds of safety.

Yours faithfully

Paul Elliott
Land-use Planning Co-ordinator

cc Mr Gary Mohammed, Department of Energy & Climate Change, Area A, 3rd Floor, 3 Whitehall Place, London SW1A 2AW

HIGHWAYS AGENCY

Our ref: Q730822
Your ref: 01.08.1004/426C

Mark Norman
Planning Manager

Woodlands
Manton Lane
Bedford MK41 7LW

Direct Line: 01234 796244
Fax: 01234 796340

Department of Energy and Climate Change
Energy Development Unit
Area A 3rd Floor
3 Whitehall Place
London
SW1A 2AW

4 May 2010

For the attention of Gary Mohammed

Dear Gary

A13 PROPOSED GAS FIRED POWER STATION
AT THE MANORWAY STANFORD-LE-HOPE ESSEX SS17 9PD

Thank you for your letter of the 3 March 2010 requesting comments on the above application.

As you know the Highways Agency, on behalf of the Secretary of State for Transport is responsible for managing and operating a safe and efficient Strategic Road Network (SRN) (i.e. the Trunk Road and Motorway Network) in England. Planning matters which affect the SRN and how they are to be addressed are set out in the Department for Transport Circular 02/2007 (Planning and the Strategic Road Network) I have attached a link to the document for your convenience.

http://www.dft.gov.uk/pgr/regional/strategy/policy/circular207planningandstrategic

The Highways Agency works with developers to secure delivery of their proposals in such a way as to minimize any additional burden on other users of the Strategic Road Network. Where there is no spare operating capacity, developments can only be accommodated if they do not add any further delay or disruption to the route-"Nil Detriment"

Typically with the development of a Transport Assessment, there is discussion with the highway authorities on the scope and extent of any assessment. This process can save a considerable amount of time and minimise any abortive work that could occur. However, I am not aware that any such consultation has taken place on this application.

We are surprised given the size and scale of this proposal that a more detailed Transport Assessment has not been undertaken to understand the impacts of the proposals and identify any mitigation measures that may be required.

The Transport work the developer has provided is limited and contained within the overall environmental assessment. JMP on behalf of the Highways Agency has reviewed this and I attach a copy of their technical note. You will note that the work undertaken is insufficient to robustly understand the impacts of the proposals.

The Highways Agency accepts that the operational impact of the proposals is unlikely to have a significant impact on the SRN and that the major impact of the development will be during the construction stage. However bearing in mind that the Trunk Road particularly M25 J30 is at capacity for large parts of the day, it is disappointing that there has been little or no consideration of how construction could be taken forward by means other than by use of the highway ie maximising the opportunities for using the river or rail.

The Highways Agency would expect to see a detailed construction plan that actively aims to minimise any movements on the SRN and where this is necessary to ensure any movements to be at times when the impact will at its least disruptive. It should be noted that consideration will need to be given to avoid any clash of operations with the forthcoming Olympic and Paralympics games. This has not been provided.

I met with the applicant's consultants on the 28 April 2010 to discuss and raise these matters and discussions are on going.

I trust the above sets out the Highways Agency views on the application If you require further detail please feel free to contact me with by email or phone

Yours sincerely

Mark Norman
Network Delivery & Development
Email: mark.norman@highways.gsi.gov.uk

Memo

Date	4 May 2010
Job No/ Name	T107325 / GEC
Subject	Highways Agency Initial Comments

1. Summary

- Gateway Energy Centre Limited (GECL) is applying to the Department of Energy and Climate Change, under Section 36 of the Electricity Act, for permission to construct and operate a 900 megawatt (MWe) combined cycle gas turbine electricity generating station (the Gateway Energy Centre) at land on Manorway, Stanford-Le-Hope, Essex, SS17 9PD.
- Parsons Brinckerhoff has produced an Environmental Statement (ES) and a Design and Access Statement (DAS) to accompany the planning application for the Gateway Energy Centre (GEC).
- The construction phase is estimated to last between 28 and 36 months. The construction traffic is believed to peak at 600 personnel and 150 HGVs per day at the height of construction, with an average of 220 personnel and 75 HGVs. The construction traffic will also consist of a "small number" (10-15) of abnormal loads associated with components such as the gas and steam turbines.
- During operation of the GEC it is expected that there will be up to 40 personnel if the power station is operated on a "stand alone" basis, with up to an additional 20 contracted staff on site each day for the provision of general site maintenance. During major maintenance outages, a temporary 400 staff will visit the site. The major outages are planned to occur every three years.
  ACTION: It is noted that no scoping discussions were initiated with the HA prior to the completion of the ES chapter on Transport and that a Transport Assessment has not been prepared to accompany the application.
  Specific comments on Section 15 of the ES 'Traffic and Infrastructure' are provided below.

2. Existing Conditions

- Information is supplied regarding the existing conditions at the site, although further details should be included, in particular safety issues and accidents in the local area should be analysed and discussed.
  ACTION: Collision data should be obtained and analysed, whilst funding toward a '*Vehicle and Accident Monitoring Scheme*' could be sought from the developer. Further information regarding local public transport routes as well as walking and cycling routes in the surrounding area should be included.

3. Trip Generation

- The mode split assumes that all people drive to the site and that each car will contain two people. This is a high car share mode split when compared to the census data from the local area (which is less than 1.1).
  ACTION: Data from other similar sites should be provided to support this mode split assumption and further information on how a car occupancy of 2 will be achieved.
- The number of HGVs accessing the site on a daily basis has been provided, but there is no data demonstrating where this figure has come from. There is also further ambiguity as to whether these are one-way or two-way trips.
  ACTION: Further information regarding how the number of HGVs has been estimated should be included. This information should be based on the volume of material being removed / introduced to the site. Information regarding the phasing of the construction should also be included.
- It is not clear from the tables, which trips from the GEC are associated with HGV traffic and which are associated with construction workers. Furthermore there is an untitled column in the tables, which is filled with either the letter E or W.
  ACTION: It is assumed that the letters stand for either east or west and are demonstrating the approach to the site (i.e. inbound or outbound), but this should be clarified.

- The HGV trips in the table appear to have 60 outbound one-way trips and 100 inbound one-way trips a day. This equates to an additional 40 HGVs entering the site than leaving the site per day.
  ACTION: The information in the table should be clarified, by demonstrating which trips are HGVs and which are workers and also whether any other trips are expected (e.g. LGVs). The number of HGV arrivals / departures needs to be clarified, as there are currently more entering the site, than leaving the site.

4. Trip Distribution

- A number of links have been assessed along the A13 and A1014, although the exact routes taken by workers and HGVs is not clear.
- Only a small section of the Strategic Road Network (SRN) has been assessed, at one point on the A13 between the junction with A1012 and A1089, based on a TRADS data site.
- No traffic impact on the M25 has been considered. Junction 30 of the M25 is a busy section of the motorway, with Lakeside shopping centre and the Dartford Tunnel / Dartford Bridge located nearby.
- The HA response to the Thurrock Local Plan notes that both junction 30 and 31 "currently operate over capacity for a substantial part of the day". The HA response to the Thurrock Plan also notes that there will be widening of the M25 between junction 27 and 30, which is due to be completed in 2012. This may overlap with the construction phase of the new development.
  ACTION: The origins and destinations or routing of the HGVs and workers needs to be considered and included in the assessment. The direction which the traffic enters / leaves the SRN also needs to be considered and included in the assessment. The impact that the construction traffic will have on the A13 up to and including the junction with the M25 junction should be assessed.
  Construction traffic may need to be restricted at certain times of the year, for example during the Olympics when Lakeside Shopping Centre is being used as a 'park and ride' site. Further information should be provided on estimated traffic flows during this period.

5. Transport Impact/Mitigation

- The number of parking spaces at the site during construction phase has not been provided.
  ACTION: The number of car parking spaces proposed should be stated or be provided at a later stage, to be secured by way of condition. The car parking provision should be related to the estimated staff trip generation levels.
- Links along the A13 and A1014 have been assessed using Congestion Reference Flows (CRFs), although the junctions have been ignored. It is noted that junction constraints could lead to a reduced flow on the links and hence create a scenario where the links appear to be operating better than they actually are.
- It is noted that the assessment in the ES is taken from Advice Note TA 46/97 of the Design Manual for Roads and Bridges (DRMB) and is designed for cost benefit analysis exercise, rather than as part of a Transport Assessment. According to Advice Note T47/97 of DRMB:

> *"Appendix D describes the Congestion Reference Flow (CRF) which is an estimate of the total Annual Average Daily Traffic (AADT) flow at which the carriageway is likely to be 'congested' in the peak periods."*
>
> *"This advice Note sets out carriageway standard options related to opening year flow ranges for use as starting points in the design and economic assessment of new rural trunk road links."*

- The use of the CRF to assess the impact of the proposed development on the operation and capacity of the SRN is not acceptable to the Highways Agency and therefore the ES does not currently provide a robust assessment.
- The cumulative impact of the London Gateway development has been considered. Other committed developments that should be considered are the Power Station at Tilbury Docks and the proposals to use the Lakeside shopping centre as a 'park and ride' location for the Olympics.
- The assessment states that construction trips will not occur during peak hours, the section outlining how this can be achieved / managed should be expanded.
- **ACTION:** The assessment of the road links does not, in its current form, provide the Highways Agency with a clear understanding of the impact of the development on the SRN. Further information on the TRADS data set used should be provided, including the exact location, dates, time periods and type of traffic flows, in order to determine whether this provides an adequate reflection of traffic flows on this particular part of the network. In addition, the availability of additional data sources, such as

link flows and junction turning counts on the SRN, in addition to existing junction models, should be investigated and applied to the assessment, to include the A13 between and including the junctions with the A1013 and the M25.

- Mitigation measures, such as freight consolidation, should be explored to reduce the cumulative impact of the GEC and London Gateway Development. The information regarding how construction traffic will be managed and restricted to off-peak hours needs to be expanded. A local recruitment plan should also be provided to ensure that local workers are employed and that SRN traffic is kept to a minimal.
- The ES makes no reference to any efforts to transport goods by either sea or rail, which would be welcomed by the Highways Agency.
- **ACTION:** The Applicant should explore opportunities for transporting goods by sea and rail and include this in the assessment.
- Minimal information has been provided regarding abnormal loads.
  ACTION: The HA will need to understand the routes, measurements and exact frequency of the abnormal loads. A Transport Management Plan (TMP) should be prepared to demonstrate how all construction trips (people, freight, waste removal and abnormal loads) will be managed.

6. Promotion of Smarter Choices

- A Transport Management Plan has been outlined which will include a 'Green Travel Plan' to encourage the use of sustainable travel amongst staff, although further details should be provided.
  ACTION: Further information showing how car sharing ratio of 2 may be achieved needs to be provided. Sustainable measures that could be implemented at the site such as 'park and ride' or a communal minibus should be explored. These sustainable transport options need to be committed to ensure that single car driver trips are kept to a minimum.

UPDATE – The Highways Agency has recently met with the Applicant and their consultants on 28th April 2010 to discuss the comments in this note. The Applicant has agreed to provide further clarification and information on the likely impact of the proposed development on the Strategic Road Network. Once the impact of the development is fully understood, we will be in a position to agree suitable mitigation measures with the Applicant. Additional information was received by email on 4th May 2010, which is currently being reviewed by the Highways Agency.

HIGHWAYS AGENCY

Our ref: HA 4/1/014880
Your ref.

Mark Norman
Planning Manager

Woodlands
Manton Lane
Bedford MK41 7LW

Direct Line. 01234 796244
Fax: 01234 796340

Dalton Warner Davis
21 Garlick Hill
London
EC4V 2AU

21 May 2010

Dear Sir

A13 LAND AT THE MANORWAY STANFORD-LE-HOPE ESSEX
PROPOSED ELECTRICITY GENERATING PLANT

I refer to the application for a gas fired power station at Manor way Stanford-le-hope and the submitted environmental statement. We discussed our initial comments at a meeting on the 28th April 2010 at JMP offices

Further to our meeting on 28 April 2010. some further information and clarification on details contained within the Environmental Statement (ES) for the Gateway Energy Centre was received from Parsons Brinckerhoff (PB) at the beginning of May 2010. The narrative in italics is the original query from the Highways Agency as per the Meeting Agenda of 26 April 2010. Following this is PB response

It should be noted that the response from PB only sought to address some of the questions raised at that meeting (a full list of the Questions was contained in JMP technical note. for which we are still awaiting further information).

1.1 Trip Generation

a) Car sharing figure

The mode split assumes that all people drive to the site and that each car will contain two people. This is a high car share mode split when compared to the census data from the local area (which is less than 1 1)

The figure of 1 1 persons per vehicle derived from the 2001 Census is an average across the entire local authority (including shop staff and office workers etc) and is not considered to reflect the nature of the construction workforce required for GEC.

Public domain ES cite figures of: MGT Teesside. 2.3: Damhead Creek 2, 2.5; Cockenzie CCGT 2.0; EON Drakelow Extension 1 4. Copies of the relevant ES Sections accompany this document.

PB has assumed an average of 2 persons per vehicle and this is considered achievable based on our experience and, in particular, through InterGen preparing and implementing a Transport Management Plan once project construction details are more advanced (which, as is normal for CCGT power station projects, would be post Section 36 award once the detailed engineering and construction contracts are advanced).

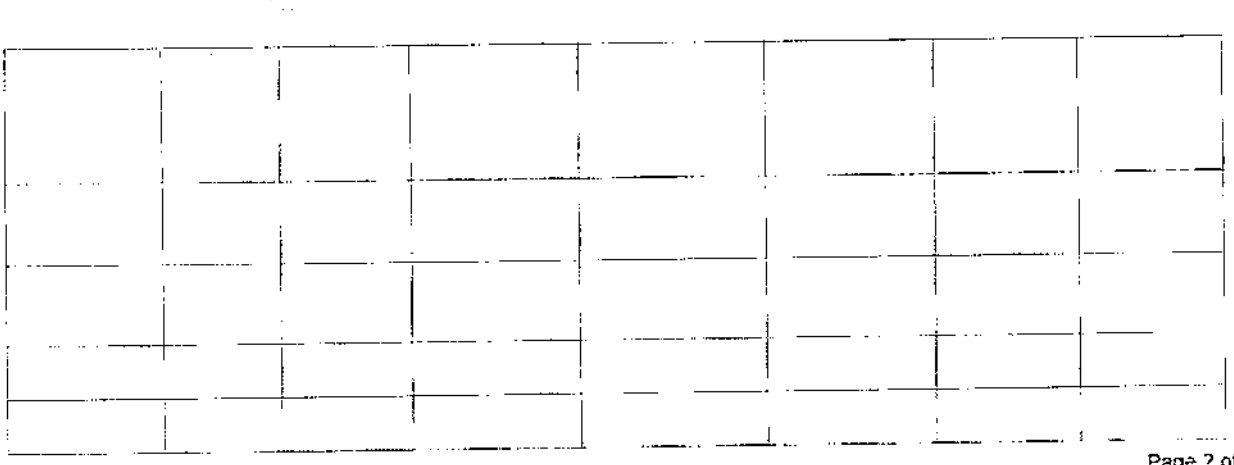
b) HGV numbers

The number of HGVs accessing the site on a daily basis has been provided, but there is no data demonstrating where this figure has come from. There is also further ambiguity as to whether these are one-way or two-way trips.

The GEC is currently in the planning stages of the development and will not enter the detailed design stage until the Section 36 Consent and Environmental Permit for the plant have been awarded, as is the industry standard practice. The volume of material to be removed from/introduced to the site can only be confirmed following the detailed design stage of the GEC (e g. once the site level is agreed with the Environment Agency for flood level purposes).

The figures used for HGV traffic generation are based on our experience. The peak HGV generation figures (per day) quoted in the ES's highlighted above are: MGT Teesside, 45; Damhead Creek 2, 100; Cockenzie CCGT, 42; EON Drakelow Extension, 40. The figures quoted in the GEC ES are an average over the construction period of 75 HGVs visiting the site per day (150 trips – 75 inwards and 75 outwards), with approximately 150 HGVs per day

(300 trips – 150 inwards and 150 outwards) anticipated at the peak of construction. Following comparison with other projects, it is considered that the HGV vehicle generation estimates represent a robust worst case for GEC.



It is not clear from the tables, which trips from the GEC are associated with HGV traffic and which are associated with construction workers. Furthermore there is an untitled column in the tables, which is filled with either the letter E or W.

The ES states that all construction workforce traffic will be between 06:30-08:00 and 18:00- 19:30 (Para 15.6.3) and that HGV traffic will be between 09:00-17:00 (Para 15.6.4).

The Highways Agency/JMP assumption regarding the E/W column is correct and represents the busiest affected direction of the A13/A1014 for each particular hour.

The HGV trips in the table appear to have 60 outbound one-way trips and 100 inbound one-way trips a day. This equates to an additional 40 HGVs entering the site than leaving the site per day.

The 20 HGVs per hour quoted in the tables are expected to occur in both directions during each hour, the E/W choice is based on the perceived busiest direction in that particular hour, therefore assessing the worst case impact on road capacity based on the ratio of flow to capacity (RFC).

Explicit shift timings have not been supplied for construction workers. The table suggests that workers arrive at the site at 7:00am and leave at 19.00 with no inbound or outbound trips at any other time during the day.

There will be no shift work during construction of the GEC; the construction workforce will typically work 12 hour days. Days of operation are detailed in other sections of the ES. For clarification, initially, and until the buildings are closed and capable of providing an 'indoor working environment', construction work will only take place during Monday to Saturdays 07:00 – 19:00 hours.

The 'indoor working environment' will potentially allow some night working, however it is anticipated that the number of staff on-site will be significantly less than the figures quoted in the ES. Given the reduced demand on the local road network at night, it is considered that construction vehicles accessing the site will have an insignificant impact.

No work on any Sunday or Bank Holidays will be undertaken, unless such work is associated with an emergency. Should a need arise, due to technical constraints or similar, with regard to carrying out certain construction work outside the time indicated above (i.e. 07:00 – 19:00 hours), prior written approval from the Highways Agency and Thurrock Borough Council will be sought, as appropriate.

1.2 Trip Distribution

a) A13/A1014

A number of links have been assessed along the A13 and A1014, although the exact routes taken by workers and HGVs are not clear. Only a small section of the Strategic Road Network (SRN) has been assessed which is the A13 between the junction with A1012 and A1089.

The final HGV routes will be determined once the sources of the various construction materials are known, however, all HGV will be required to approach the site along the A13/A1014 as appropriate.

The A13 was considered to be the most sensitive part of the route to site (Para 15.6.5 and Table 15.4) and formed the basis of the assessment. As the impact for this section was insignificant, no further discussion of the remainder of the route was considered necessary.

Following our meeting PB will provide details of the analysis along the entire A13/A1014 preferred route.

b) M25

No traffic impact on the M25 has been considered. Junction 30 of the M25 is a busy section of the motorway, with Lakeside shopping centre and the Dartford Tunnel / Dartford Bridge located nearby. The HA response to the Thurrock Local Plan notes that both junction 30 and 31 "currently operate over capacity for a substantial part of the day".

Given the trip generation levels and the timing of various vehicle movements (i.e. outside peak hours and the bulk of construction traffic being in the early morning and late evening) it is considered that the additional traffic will have no impact on the M25. The final trip distribution of construction traffic will only be known once the materials sources and workforce accommodation locations are determined. This would be more appropriately discussed at that time as, discussed above, only once the construction contracts are in place can this be considered with authority.

Following completion of the detailed engineering of GEC, and at any point thereafter, any information that may affect the conclusions expressed within the ES, this document and any discussions with the Highways Agency and Thurrock Borough Council will be communicated to all parties. This will be used as a basis for determining the need and nature of any further work or analysis in order to ensure that the impacts of the development are eliminated or remain as insignificant as possible.

However, as discussed, an estimated distribution of trips associated with the construction workforce for GEC has been prepared based on the availability of suitable B&B/Hotel-style accommodation using data from the Visit Essex website. The estimated distribution of staff, and thus staff vehicles, is:

Town/Village	*% workforce*	*Vehicle Generation During Peak of*

		Construction
Basildon	28	85
Brentwood	14	40
Chelmsford	23	70
Maldon	3	10
Southend	22	65

Potential routes to the construction site are illustrated in the figure below:

It is assumed that the remaining 10 per cent of the construction workforce (30 vehicles per day, or 60 trips) will travel on the Strategic Road Network of the M25 and, via Junction 30, the A13. This assumption will allow for construction staff with accommodation in other areas and also for the senior management staff of both GECL and the construction contractors visiting the site in a supervisory capacity

An estimation of the distribution of HGV traffic around Junction 30 is currently being investigated and will be forwarded to the HA/JMP as soon as it is available.

Baseline Data

Baseline data has been extracted from the Highways Agency TRADS2 database. It was noted in the meeting that the HA/JMP required further details as to the coverage of this data to determine whether this would reasonably reflect the baseline traffic

Calendar counts of the available data for the TRADS2 count point used indicate an average of 88 per cent data availability. Of the 15 count points used in the assessment, 9 have annual coverage of 99 per cent. Only one of the count points has limited coverage at 34 per cent.

It is therefore considered that the data provides an accurate reflection of the baseline traffic in the area.

The full datasets will be forwarded to the HA/JMP for examination

I look forward to your response

Yours faithfully

Mark Norman
Network Delivery & Development
Email: mark.norman@highways.gsi.gov.uk

CC JMP, D&C

DP WORLD

London Gateway
The Manorway
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Essex SS17 9PD

Tel: +44 (0) 1375 648316
Fax: +44 (0) 1375 648312

Date: 29th April 2010

Mr G Mohammed
Manager
Conventional Power Stations and Gas Pipeline Consents
DECC
Area A, 3rd Floor
3 Whitehall Place
London
SW1A 2AW

Dear Mr Mohammed

Re: Application Gateway Energy Centre Limited (GECL) pursuant to Section 36 of the Electricity Act 1989 and Section 90(2) of the Town and Country Planning Act 1990, Combined Cycle Gas Turbine Electricity Generating Station (the GEC), Land at The Manorway, Stanford le Hope

I write with regard to the above mentioned application for consent to construct and operate the GEC and for a direction under Section 90(2) of the Town and Country Planning Act 1990 (TCPA) that planning permission for the development is deemed to be granted.

As the registered freehold owner of the London Gateway site, within which the GEC development is proposed to be located, and as the promoter of the wider London Gateway Port and Logistics Park which received consent in May 2007 for a major harbour works, road and rail linked logistics and commercial centre, DP World – London Gateway has received extensive consultation from GECL throughout the design and application process. Informed by such consultation, DP World – London Gateway wishes to register its strong support for the GEC proposals, which we believe will offer significant benefits in delivering sustainable economic activity and reducing carbon emissions, particularly given the potential for future provision of combined heat and power to the London Gateway development and other developments within the Thames Gateway.

Notwithstanding the above, our examination of the documentation submitted in support of the application has highlighted a number of matters for which we

wish to offer clarification. I discuss these matters in turn as follows. Where appropriate, reference to the relevant section of the supporting documentation is provided:

- Paragraphs 5.2.13 and 5.4.1 of the Environmental Statement submitted in support of the application (the GEC ES) describe an area of *"undeveloped land known as the REL and Tongue Land"*. We wish to highlight that the Tongue land was previously developed as part of the Shell Haven refinery and as such is currently considered to be brownfield land.

- Various references within Section 12 of the GEC ES suggest that Valued Ecological Receptors have been cleared from the GEC site as part of the ecological mitigation associated with the London Gateway commercial and logistics park development. In fact, clearance of the area of land within the London Gateway site which corresponds with the GEC site is the subject of an application pursuant to the Conservation (Natural Habitats and c.) Regulations 1994 (as amended) which is currently being considered by Natural England. We anticipate clearance of the site will be undertaken during the summer of 2010.

- Paragraph 12.5.27 of the GEC ES incorrectly suggests that two small Pipistrelle roosts have been removed under licence as part of the London Gateway commercial and logistics park development. We wish to clarify no Pipistrelles have been relocated or removed to date. It is to be noted however that roosts identified by the surveys discussed (Thompson Ecology 2008) are not located within the land to be utilised for the purpose of the GEC development.

- Paragraph 12.6.43 of the GEC ES suggests that the majority of reptiles relocated from the London Gateway site have been relocated to receptor sites in Wiltshire. In fact only approximately 35% of reptiles captured to date have been relocated to Wiltshire with approximately 30% relocated to receptor sites in the direct vicinity of London Gateway and the remaining 35% relocated to other sites within Essex.

- Paragraph 1.3.6 of the GEC Flood Risk Assessment (FRA) discusses the timing of construction build out of the London Gateway development. We would wish to clarify that, save for the provisions of the Condition 1 and 2 which discuss the timing of submission and subsequent implementation of the first detailed planning application, build-out rates are not specified within the London Gateway Outline Planning Approval (OPA).

- Paragraph 2.2.5 of the GEC FRA discusses the date of decommissioning of the whole of the LG Development (2068). We wish to point out that no intention exists to decommission the commercial and logistics park or port developments. We believe this reference originates from the London Gateway FRA (Scott Wilson, July 2008) which, for the purpose of assessment, assumes a 60 year development lifetime.

- Paragraph 2.6.1 of the GEC FRA suggests that the drainage details for the wider LG Development are agreed under the London Gateway OPA. We would wish to point out that, whilst a sustainable urban drainage system of swales and lagoons is indicated within the current London Gateway development masterplan, matters of detailed design were not considered at the outline stage and as such will be the subject of future detailed (Reserved Matters) planning applications. Only one such detailed consent has been obtained to date (Ref: 08/00902/TTGREM) relating to land predominantly towards the west of the site.

- Regarding Document 11 (annexed to the Planning Statement), please note that the London Gateway site access road (as indicated on masterplan drawing reference 2632-76 Rev C) differs from that permitted in detail within the London Gateway OPA or Harbour Empowerment Order. This drawing reflects a planned variation to the permitted access arrangement, for which we intend to submit a separate full planning application during the summer of 2010.

Minded by the fact that the proposed site area is common to both the Section 36 application and the London Gateway OPA, DP World – London Gateway has also sought confirmation from the relevant Local Planning Authority (Thurrock Thames Gateway Development Corporation (TTGDC)) regarding a number of matters relating to the relationship between the existing London Gateway OPA and any subsequent GEC approval. A copy of our letter to TTGDC dated 29th April 2010 is attached for your information.

Should you require further information in relation to any of the matters discussed herein, please contact me using the details at the top of this letter.

Yours faithfully

Trevor Hutchinson

For and on behalf of DP World – London Gateway

cc: Matt Gallagher (TTGDC)

DP WORLD

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Tel: +44 (0) 1375 648316
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Date: 29th April 2010

Mr M Gallagher
Thurrock Thames Gateway Development Corporation
Gateway House
Stonehouse Lane
Purfleet
Essex
RM19 1NX

Dear Matt

Re: Application Reference 10/50133/TTGELE, Combined Cycle Gas Turbine Electricity Generating Station (the GEC), Land at The Manorway, Stanford le Hope

I write with regard to the recent application under Section 36 of the Electricity Act 1989 for consent to construct and operate the above mentioned facility and for a direction under Section 90(2) of the Town and Country Planning Act 1990 (TCPA) that planning permission for the development is deemed to be granted.

The application discussed above falls to be determined by the Secretary of State for Business, Enterprise and Regulatory Reform ("the Secretary of State") and with this in mind we shall be submitting representations by the consultation deadline of the 30th April 2010.

Notwithstanding the above, I note that Thurrock Thames Gateway Development Corporation is the relevant Local Planning Authority in relation to the application under Section 90(2) of the TCPA.

Minded by the location of the proposed development within the London Gateway site, DP World – London Gateway is seeking confirmation regarding some matters relating to the relationship of the proposed GEC development (should it receive Section 36 consent and deemed planning permission) with the Outline Planning Approval for the London Gateway Business and Logistics Park (Ref: THU/02/00084/OUT as amended by 08/00684/TTGCND, 08/01127/TTGCND and 09/50090/TTGCND). Discussions via e-mail with the

Department for Energy and Climate Change have suggested that such matters should be addressed to TTGDC in the first instance. I discuss the relevant issues under the following headings:

London Gateway OPA Conditions and Obligations

Whilst we are confident that commencement of development pursuant to approval by the Secretary of State for the GEC could not trigger obligations attached to our planning consent, we are minded that a number of London Gateway OPA conditions leave a degree of ambiguity and may be misinterpreted by parties less familiar with the framework of the TCPA. For example, a number of OPA conditions state that *'no development of the application site'* shall take place until prescribed requirements have been satisfied.

For the avoidance of future doubt, I would be grateful for your confirmation that the commencement, implementation or occupation of the GEC pursuant to any planning consent which may be forthcoming could not trigger any of the existing obligations set out within the London Gateway OPA conditions, Section 106 Agreement or Unilateral Undertakings.

Relationship to London Gateway Mitigation

Some references within the Environmental Statement which accompanies the GEC proposals (the GEC ES) appear to suggest that development of the GEC is predicated upon the implementation of London Gateway OPA ecological mitigation, as defined within the London Gateway Environmental Mitigation and Management Plan (LGEMMP). However elsewhere within the GEC ES an independent EMMP is discussed. In all practicality it is likely that the GEC site will be cleared of ecology by London Gateway, for the purpose of development of the business and logistics park, under the appropriate licence prior to the determination by the Secretary of State of the Section 36 application. However, should you be minded to recommend approval of the GEC proposals, I would be grateful for your confirmation as to whether it would be your intention to seek an appropriately worded planning condition which requires the submission for approval of a dedicated GEC EMMP.

For the avoidance of doubt I reiterate DP World – London Gateway's understanding that the commencement, implementation or occupation of the proposed GEC development would not trigger any mitigation required under the London Gateway OPA.

Site Levelling

Paragraph 12.1.3 and 12.1.4 of the GEC ES suggest that site levelling will be undertaken by the freehold owner prior to provision of the land to the GEC promoters (GECL). This arrangement is consistent within land provision agreements, however it is not clear from the GEC ES which consent the levelling works would be pursuant to. Should the works be undertaken pursuant to the London Gateway OPA, it is our understanding that we would be required to first seek detailed planning (Reserved Matters) approval. Alternatively levelling works may be approved pursuant to a GEC consent, in which case such consent should be subject to a suitably worded condition requiring the submission of all design details and preparatory site works.

In light of the above, should you be minded to recommend approval of the GEC proposals, I would be grateful if you would indicate whether it would be your intention to request a condition in respect of ground levels and ground-raising.

Please note that, in addition to the matters discussed herein for which confirmation is sought, our response to the Secretary of State will offer clarification in relation to a number of other representations within the documentation submitted by the applicant in support of the Section 36 application.

Notwithstanding the matters discussed herein, DP World remains strongly supportive of the proposals, which we believe will offer significant benefits in terms of supporting sustainable economic activity, particularly at London Gateway, the Thames Gateway and beyond, and reducing carbon emissions.

Please feel free to contact me using the details at the top of this letter should you wish to discuss any of the matters raised herein.

Yours sincerely

Trevor Hutchinson

For and on behalf of DP World – London Gateway

Cc: Gary Mohammed (DECC)

ORIGINAL

Date Received (by)

2 [illegible] 2010

Development Control

Decision Notice

MC/10/0831

Medway Council

Serving You

Mr Gallagher
Thurrock Thames Gateway
Development Corporation
Gateway House
Stonehouse Lane
Purfleet Essex
RM19 1NX

Development, Economy and Transport
Regeneration, Community and Culture
Gun Wharf
Dock Road
Chatham
Kent ME4 4TR
Telephone: 01634 331700
Facsimile: 01634 331195
Minicom:01634 331300

App's Name Gateway Energy Centre Limited

UNCLASSIFIED

TOWN & COUNTRY PLANNING ACT 1990
Town & Country Planning (General Development Procedure Order) 1995 (as amended)

Proposal: Consultation under Article 10 of the Town & Country Planning (General Permitted Development Procedure) Order 1995 for a full planning application for the development of a 900 megawatt (MWe) combined cycle gas turbine (CCGT) electricity generating plant

Location: LAND AT THE MANORWAY STANFORD-LE-HOPE ESSEX SS17 9PD

I refer to your letter of consultation regarding the above and would inform you that the Council **RAISES NO OBJECTION** to it.

Your attention is drawn to the following informative(s):-

There are potential impacts on Medway's significant and densely populated urban area and outlying settlements, and internationally and nationally protected habitats (Special Protected Areas, RAMSAR sites and sites of Special Scientific Interest), from changes in air quality as a result of the proposed development. The relevant consultee responses on these matters, including the RSPB, Natural England and the Environment Agency, should be taken into consideration in the determination of this application.

Signed

Dave Harris

David Harris
Development Manager
Date Of Notice 26 March, 2010

GENERAL DEVELOPMENT PROCEDURE ORDER 1995

PART 2

TOWN AND COUNTRY PLANNING ACT 1990

Appeals to the Secretary of State

- If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.
- If you want to appeal against your local planning authority's decision then you must do so within 6 months of the date of this notice.
- Appeals must be made using a form which you can get from the Planning Inspectorate at Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN or online at www.planningportal.gov.uk/pcs.
- The Secretary of State can allow a longer period for giving notice of an appeal, but he will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.
- The Secretary of State need not consider an appeal if it seems to him that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.
- In practice, the Secretary of State does not refuse to consider appeals solely because the local planning authority based their decision on a direction given by him.

Purchase Notices

- If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.
- In these circumstances, the owner may serve a purchase notice on the Council (District Council, London Borough Council or Common Council of the City of London) in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

Date: 30/4/10
Our ref: APR/EE.09/10.1450/4483/Thurrock
Your ref: 01.08.10.04/462C

ENGLAND

Natural England
Harbour House
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CO2 8JF

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Department of Energy and Climate Change
Energy Development Unit
Area A, 3rd Floor
3 Whitehall Place
London
SW1A 2AW

For the attention of Mr Gary Mohammed

Dear Mr Mohammed

Application under Section 36, The Electricity Act 1989 (10/50133/TTGELE)

Proposed Gas Fired Power Station at the Manorway, Stanford-le-Hope, Essex SS17 9PD

Thank you for consulting Natural England on the above proposal. Your letter was received by this office on 10 March 2010. Please note that this letter represents Natural England's formal consultation response under Section 28 of the *Wildlife and Countryside Act 1981* (as amended).

The proposed development has the potential to affect a number of Sites of Special Scientific Interest as well as several sites designated as part of the Natura 2000 network (SPA and SAC). The relevant sites are listed in the Ecology chapter of the Environmental Statement (ES)

Natural England has no substantive objection to sustainable development on this site, and we are aware that this application represents a nationally significant piece of energy infrastructure. We do have concerns over potential air pollution impacts on designated sites lying downwind of the site, however, and feel that certain aspects of the impact modelling and assessment for this issue require further clarification and may potentially need re-assessment.

Accordingly, we submit a **holding objection** until such time as the applicant can either supply further information to provide a sound scientific basis for their current assessment, or alternatively can provide information to indicate how the acknowledged impacts might be mitigated for.

Air Quality Issues (ES Chapters 9 & 12)

The ES provides modelling information which indicates that three Sites of Special Scientific Interest (Holehaven Creek, Canvey Wick and Thundersley Great Common) are predicted to have a increase in the ground level NOx concentration of between 1 and 2.2% - where 1% is a threshold deemed to have potentially significant impacts. Thundersley Great Common SSSI currently suffers from an existing NOx concentration of 103.3% of the critical load, so the additional 1.0% predicted for this site will further exacerbate the situation at a currently Unfavourable Recovering site.

There is no clear explanation for the ES conclusion in para 12.6.28 that 'The additional NOx generated by the proposed GEC scheme will potentially have a significant adverse effect on the site however this effect is considered to be of low magnitude' and we would welcome clarification of this.

Additionally, at four of the potentially affected SSSIs (Vange and Fobbing Marshes SSSI and Thundersley Great Common SSSI in Essex, and Northwood Hill SSSI and Chattenden Woods SSSI in Kent), the critical levels for nitrogen deposition are currently being exceeded. Any extra nitrogen deposition impacts from the GEC scheme will therefore continue to worsen the situation at these sites, even if the predicted additions are relatively small. These impacts could be especially significant at sites notified either for acid grassland /heath (Thundersley Great Common SSSI), or for woodland/neutral grassland (Chattenden Woods SSSI and Nothward Hill SSSI) as these habitats are potentially more vulnerable to adverse impacts from increased enrichment effects through deposition.

Para 12.7.12 accepts that a significant adverse impact on Thundersley Great Common SSSI will occur during the operational phase of the GEC scheme. No mitigation is proposed for this impact, however, although the ES comments that 'GEC propose an on going dialogue with regard to impacts to this receptor with the relevant authorities.' Castle Point Borough Council and Natural England amongst others are currently undertaking a number of initiatives at Thundersley Great Common - including scrub reduction and the removal of cuttings off-site – which are specifically designed to reduce nutrient deposition on the site in an attempt to bring the acid grassland back into more favourable condition. We anticipate that should GEC wish to engage in this management initiative in some way, in line with their desire to achieve a sustainable development solution at the Manorway site, the Borough Council would be supportive of this approach and would welcome direct participation. It would be appropriate therefore for some more concrete recognition of the potential off-site air quality mitigation measures available to be set out within the ES, both at Thundersley and also at the Kent sites, and Natural England will be happy to engage in further discussions with all parties to reach an agreement on exactly which measures are most suitable for each site, and how GEC could most usefully contribute.

Protected Species

We are aware that there are not expected to be any populations of protected species within the application site at the time of construction, due to site clearance and translocation strategies already licensed and being undertaken. However, if DECC feels that this Section 36 application has the potential to have an adverse impact on species protected under European or UK legislation, you are referred to our Standing Advice on protected species at:

http://www.naturalengland.org.uk/regions/east_of_england/ourwork/standingadvice/default.aspx

This provides information on the validation of planning applications, when it is reasonable to request ecological survey information from applicants, an introduction to interpreting survey reports, and thresholds for further consultation with Natural England.

We note that the recent Tilbury C power station application contained a number of interesting and innovative suggestions for retaining habitat suitable for key invertebrate species within the development site. We are not convinced that there will be 'few or no invertebrates on site' here following development of the wider Gateway site under its EMMP (para 12.5.73), and would suggest that a power station development offers considerable scope for design features which could substantially retain or improve the potential for significant invertebrate interest, including UK BAP and Red Data book

species. Such design features, which could range from wildflower forage resources and nesting opportunities in loose earth banks, to green or brown roofs on some of the site buildings, would enhance the project and are in line with the sustainability responsibilities set out in the Electricity Act. Further consideration of these design possibilities would be welcome within the ES.

We hope that these comments are useful to DECC in its consideration of this Section 36 Application, and have copied in the likely interested parties in order to speed up any further consultation process. Should you have any additional concerns relating to the content of this letter, please contact me at the above address.

Please forward a copy of the decision notice to us at the above address.

Yours sincerely

Andrew Robinson
Planning and Biodiversity Adviser
Four Counties Government Team (Beds, Cambs, Herts and Essex)

andrew.robinson@naturalengland.org.uk

CC Matthew Gallagher – TTGDC
Peter Lo - Intergen
Castle Point Borough Council

MINISTRY OF DEFENCE

Defence Estates Safeguarding
Statutory & Offshore

Defence Estates, Kingston Road,
Sutton Coldfield, West Midlands, B75 7RL

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Facsimile (MOD): +44 (0)121 311 2218
E-mail: safeguarding@de.mod.uk

Mr Gary Mohammed
Department of Energy and Climate Change
Energy Development Unit
Area A, 3rd Floor
3 Whitehall Place
London
SW1A 2AW

Your Reference: **01/08/10/04/462C** 29/03/2010
Our Reference: D/DE/43/20 (10/541)

Dear Mr Mohammed

MOD SAFEGUARDING – SITE OUTSIDE SAFEGUARDED AREA

Proposal: Proposed Gas Fired Power Station

Location: Manorway, Stanford-Le-Hope, Essex, SS17 9PD

Grid Ref: 573079, 182108

Planning Ref: **01/08/10/04/462C**

Thank you for consulting Defence Estates Safeguarding on the above proposed development. This application relates to a site outside of Ministry of Defence safeguarding areas. We can therefore confirm that the Ministry of Defence has no safeguarding objections to this proposal.

Yours sincerely

Richard Brotherton
DE OPS NORTH
Defence Estates Safeguarding

Safeguarding Solutions to Defence Needs

DEFENCE ESTATES
Delivering Estate Solutions to Defence Needs

From: Smith Mike (Town Planning) [mailto:Mike.Smith8@networkrail.co.uk] **On Behalf Of** Town Planning SE
Sent: 11 March 2010 16:12
To: planners
Subject: 10/50133/TTGELE

Thank you for consulting Network Rail regarding application 10/50133/TTGELE, Town Planning has no further comment to make.

Mike Smith
Town Planning Technician SE
1 Eversholt Street
London
NW1 2DN

Mohammed Gary (Energy Development)

From: Mohammed Gary (Energy Development)
Sent: 22 March 2010 10:14
To: 'Clarkpetmar@aol.com'
Subject: RE: Gateway Energy Centre

Dear Mr Clark

Thank you. In order to consider your comments in more detail could you please send me your address.

Regards

Gary

Gary Mohammed
Manager, Power Station and Pipeline Consents
Department of Energy and Climate Change
Area A, 3rd Floor
3 Whitehall Place
London SW1A 2AW

Tel: 0300 068 5681
Fax: 0300 068 5003

email: gary.mohammed@decc.gsi.gov.uk

From: Clarkpetmar@aol.com [mailto:Clarkpetmar@aol.com]
Sent: 16 March 2010 15:07
To: Mohammed Gary (Energy Development)
Subject: Gateway Energy Centre

Dear Sirs

Whilst realising the need to increase generating capability, more thought should be given to the impact on the environment and the local community and infrastructure.

Thousands of pounds has been spent on re-locating newts in particular and wildlife in general but no-one seems to give a toss on the quality of life for us mere humans.

When the port and retail park enquiry took place even the government appointed inspector agreed with us that a single access road into and out of the development was a flaw in the proposal, now we are to have more traffic feeding a Power Station on this same single access leading to a near capacity A13 and on to the worst bottleneck in the South East ie The Dartford Crossing.

I appeal again as on many previous occasions for a second access to remove traffic away from residential areas.

Added to this is the fact that you cannot even consider placing power cables underground and are going to impose unsightly pylons everywhere.

So what does the community get? (Even worse landscape, more congestion, more pollution and more noise pollution).

Therefore I object to this generating station until more consideration is given to the community.

Oh to be a newt.

P J Clark

Drivers Jonas Deloitte.

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Secretary of State for the Department of Energy and Climate Change
C/O Gary Mohammed
Manager
Conventional Power Stations and Gas Pipeline Consents,
DECC
Area A
3rd Floor
3 Whitehall Place
London
SW1A 2AW

26 April 2010
Our Ref: SF/RJ/35390

Energy Centre Development in the Coryton Oil Refinery Complex Buffer Zone

Dear Sir,

We write on behalf of our client, Petroplus Refining and Marketing Limited (Petroplus), in response to the Gateway Energy Centre Limited's proposals to construct and operate a 900MW Combined Cycle Gas Turbine (CCGT) electricity generating station on land at The Manorway, Stanford-le-Hope, Essex.

Petroplus own and operate the Coryton Oil Refinery Complex, located to the south-west of Canvey Island, adjacent to the proposed site for the Gateway Energy Centre.

Petroplus support the proposals for the development of the electricity generating station at the above site. It is clear that the Energy Centre development is proposing low density employment, and our client believes therefore, that the development would be an appropriate neighbour located within the Coryton Oil Refinery Complex Buffer Zone.

On behalf of Petroplus, we explain the importance of the specific protection provided by the Buffer Zone.

Overview of Coryton's Operations

Not only is Coryton the only facility of its kind in the East of England region, but it is also the only facility of its kind within close proximity to London. Coryton Oil Refinery Complex processes about 35 million litres of feedstock each day, which is delivered by ship. The jetties handle tankers of up to 300,000 tonnes and there are currently about 800 to 1,000 ship arrivals or departures per year. Coryton manufactures a full range of petroleum products, motor gasoline, jet fuel, diesel, aviation gasoline, liquefied petroleum gas (LPG), and bitumen. Motor gasoline and diesel account for 60% of the daily output.

Coryton Bulk Terminal, which sits alongside the main refinery, is the largest road distribution terminal in Western Europe. It is operational 24 hours a day seven days a week and currently Coryton loads up to approximately 600 tankers a day. This serves about 25% of all UK petrol filling stations. Coryton also operates a rail terminal, distributing bitumen. Products are also distributed via the UKOP pipeline, in particular jet aviation fuel to major airports, including Stansted and Heathrow. Products are also exported in bulk quantities by sea.

The role of the Coryton Oil Refinery Complex Buffer Zone

Coryton is an international, national and regional gateway. As such, our client has consistently supported the maintenance of a "Buffer Zone" around the Petro-Chemical Complex. This has been accepted and supported by Inspectors and Secretaries of State.

As long ago as December 1983 our client stated in public planning representations that:

> *"For many years it has been the company's policy to retain land outside its operational and reserve holdings as a buffer, held on health and safety grounds, between the refinery and the built up areas".*

Our client has restated this many times since, and remains fully committed to this vital principle.

Representations were made on behalf of the Refinery to the London Gateway inquiries to ensure that the nature of development in the eastern part of the former Shell Haven terminal did not inhibit Coryton's operations, either now or in the future; and to ensure there remained a buffer zone which is safeguarded for only low density employment. Any other employment uses would not be permitted.

After careful consideration and discussions with both the promoters of London Gateway proposals and the Health and Safety Executive, agreement was reached as to the appropriate extent of the Buffer Zone and an agreed proposed planning condition was submitted at the end of the inquiries to the Inspector and Secretary of State (see attached drawing referenced: DJD001).

The Secretary of State approved the application in his letter of 30 May 2007. The letter stated that he had considered the Inspector's report and he agreed with the Inspector's recommendation and accepted the need for this Buffer Zone condition, amongst others, which he then attached to the consent.

Recommendation

It is clear that the Gateway Energy Centre development is proposing low density employment, and Petroplus believe therefore, that the development would be an appropriate neighbour within the western part of the Buffer Zone.

However, it would be consistent with the decision of the Secretary of State, and therefore prudent for this Buffer Zone to be formally identified on the Thurrock Core Strategy Key Diagram. That would ensure that it was always taken into account when considering any future development proposals on the site.

On behalf of Petroplus we have made similar representations to the Castle Point Core Strategy document at Issues and Options stage (2007), Preferred Options (2008), Further Preferred Options (2008), Proposed Publication document (2009), and the Final Publication document most recently in 2010.

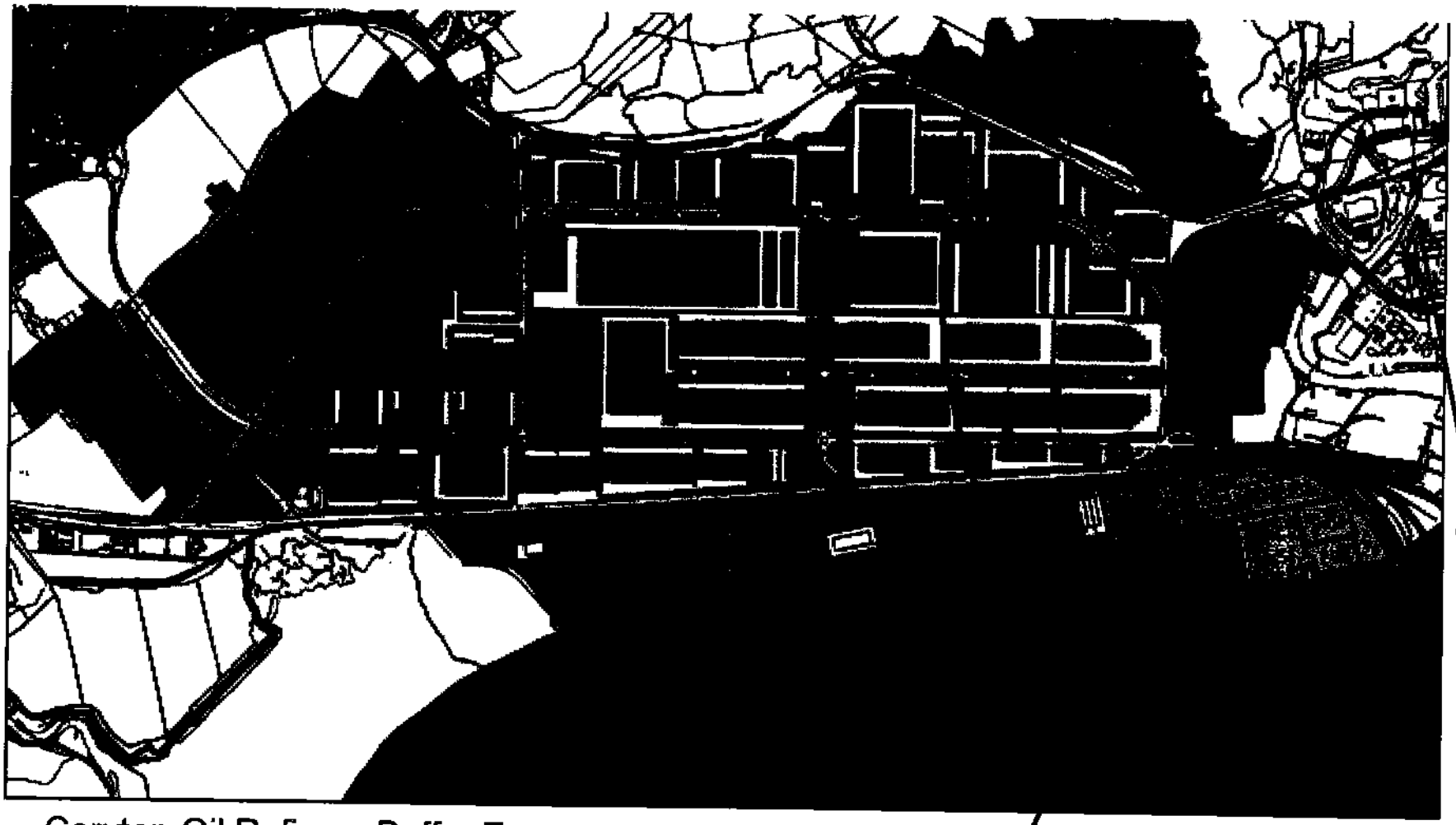
We have also made similar representations to the Thurrock Core Strategy document at Preferred Options stage (2008), and most recently, to the consultation on the Proposed Submission draft in 2010.

Yours faithfully

Rory Joyce

Rory Joyce
for Deloitte LLP (trading as Drivers Jonas Deloitte)

cc Matthew Gallagher – Thurrock Thames Gateway Development Corporation



Coryton Oil Refinery Buffer Zone

PLAN REF: DJD001

Our ref P&P/DEVELOP/DC219/D

29 April 2010

Secretary of State for Energy and Climate Change
c/o Gary Mohammed
Manager
Power Station and Gas Pipeline Consents
Area A
3rd Floor
London
SW1A 2AW

PORT OF LONDON AUTHORITY

1909 - 2009
A CENTURY OF SERVICE

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Dear Sir/Madam

RE: GATEWAY ENERGY CENTRE

The Port of London Authority has been provided with a copy of an application for consent to construct and operate a 900 megawatt combined cycle gas turbine electricity generating station on land at The Manorway, Stanford-le-Hope, Essex. The covering letter requests that comments are sent direct to you.

It would appear from the application documents that the scope of the application is limited to the Gateway Energy Centre building and to the access to the building. It is proposed that the 'Associated Infrastructure' will be the subject of separate applications. The PLA has no objection to the proposed energy centre but wishes to make comments on the associated infrastructure. It is hoped that this will assist the applicant as they develop this element of the overall project.

The PLA is currently aware of more than one proposed development where provision is being made for carbon capture and storage and it is likely that more schemes will be proposed in the future. At the moment, each scheme appears to be progressed in isolation but they appear to broadly be following the same pipeline route to the storage site. Clearly a number of pipelines under the Thames would have cumulative impacts and the PLA would therefore wish to see an investigation into whether it would be possible for the energy companies to work together to provide one main pipeline which they could then feed into from their individual development sites. The PLA would wish to be kept up to date and consulted on this element of the scheme as it progresses. Detailed information will be required on matters which include the pipeline connection and pipe laying methodology.

The applicant is also reminded of the need to obtain consent from the PLA for works over mean high water. This consent is likely to be in the form of a River Works Licence and a dredging licence may also be required.

I hope the above is of assistance to you.

Yours Faithfully

Lucy Owen
Planning Officer

SPEAK

Mohammed Gary (Energy Development)

From: Mohammed Gary (Energy Development)
Sent: 29 March 2010 07:38
To: 'derek-parker@o2.co.uk'
Cc: SALVATORE BENSON; jan.hart@talktalk.net; FLACK, Kevin; clarkpetmar@aol.com
Subject: RE: GECL Application/consultation

Dear Mr Parker

Thank you. I have noted your comments regarding the electrical connection and sub-station and they will be taken into account before the Secretary of State takes his decision on the application. However should a public inquiry be necessary I am going to register you now as an objector so that you are classed as a "qualifying objector" pursuant to the Electricity Generating Stations and Overhead Lines (Inquiries Procedure)(England and Wales) Rules 2007 (S.I. 2007 No. 841).

Yours sincerely

Gary

Gary Mohammed
Manager, Power Station and Pipeline Consents
Department of Energy and Climate Change
Area A, 3rd Floor
3 Whitehall Place
London SW1A 2AW

Tel: 0300 068 5681
Fax: 0300 068 5003

email: gary.mohammed@decc.gsi.gov.uk

From: derek-parker@o2.co.uk [mailto:derek-parker@o2.co.uk]
Sent: 26 March 2010 14:53
To: Mohammed Gary (Energy Development)
Cc: SALVATORE BENSON; jan.hart@talktalk.net; FLACK, Kevin; clarkpetmar@aol.com
Subject: GECL Application/consultation

Please find attached a submission in respect of the GECL application for the construction of a generating facility at Shell Haven, Essex.
regards
Derek Parker

Shellhaven Project Environmental Action Committee

112 Monkshaven
Stanford le Hope
Essex SS17 7EB
Tel. 01375 674889
derek-parker@o2.co.uk
25th March 2010

The Secretary of State
Dept. of Energy and Climate Change
c/o Gary Mohammed
Manager
Conventional Power Stations and Gas Pipeline Consents
DECC
Area A, 3rd Floor
3 Whitehall Place
London SW1A
gary.mohammed@decc.gsi.gov.uk

Dear Sirs,

Re – Gateway Energy Centre (London Gateway site)

SPEAC, as an organisation established nine years ago to represent residents in Corringham, Fobbing and Stanford le Hope in respect of development proposals at Shell Haven, wishes to make representations in respect of the application by Gateway Energy Centre Ltd. (GECL) for the construction of a combined cycle gas turbine electricity generating station on London Gateway land at The Manorway, Stanford le Hope, Essex, SS17 9PB.

The comments that follow are based upon discussions with the applicants and the details contained within the applicant's Environmental Statement. Our comments relate to aspects of this application that may impinge negatively upon the 'quality of life' interests in the local community.

Within these comments clause references from the Environmental Statement (Volume 1) are provided.

Community consultation

The applicants have conducted local consultation exercises as stated in Section 8 of the ES and in 8.3.1 reference is made to "public information" and in 8.3.3 to "likely impacts". Unfortunately that information and the supposed impacts arising did not include declaration, by the applicants, of the information contained in Clause 6.6 regarding the intentions for "connections". The applicants adopted this strategy on the basis that the current application is for the generating facility alone; the other issues coming later. These issues, nonetheless, are material to the opinions of local residents in relation to the current application and who have made clear to us that their responses to the application for the generating facility would have been different had they been aware of all the facts. This then, we respectfully propose, renders the content of Clause 8.3.8 invalid since those responding to the consultation exercise were not in full possession of the facts regarding the overall impact of this development. Although our subsequent communications with the applicants have resulted in fuller information being provided we would suggest that the consultation process conducted thus far, and as referred to in the Environmental Statement, is flawed, and the results void. They should not, therefore, be taken as a valid representation of local opinion. It is important to recognise that the issues relating to the proposals for connection are, potentially, more significant to the local community than the generation facility itself and it is not acceptable to suggest that they be effectively set aside until after approval for the generating facility has been granted. That is too late!

In terms of local impact the applicants make great issue of the job creation scenario, upskilling, diversity etc. and justify this with numerous references to local and regional objectives (Clauses 1.2.20, 3.4.9, 3.4.30, 3.5.15, 3.5.28, 3.5.29, 3.5.30, 3.5.31 usw). Whilst such objectives are to be supported it is important to recognise that the permanent jobs to be created by the planned facility number only "15 to 25" which is minimal in relation to regional objectives but, more importantly, far fewer than the number of residents that could be adversely affected if the above comments, and those that follow, are not acted upon.

Connection

Although the gas connection requirement will result in some local disruption during the construction phase we are led to believe, based upon the information provided by the applicant, that there will be no subsequent deleterious ongoing impacts in this community. Assuming, therefore, that our understanding is correct we make no submission on that matter.

With regard to the electrical connection there would appear to be potential, significant and permanent adverse environmental effects on the local community. Contrary to our (naïve?) expectations, the proximity of the existing generating facility at Coryton does not result in existing connections to the national grid being able to be utilised for the new connections from this proposed station. This assumes, of course, that National Grid does not modify/relax its current rules regarding maximum load capacity on lines (perhaps this should be a consideration!). Hence there are now proposals for new connections from the GEC station together with the need for a new sub-station. Clauses 1.2.7 and 4.1.6 refer to the development being no closer than 4km to the nearest residents. That is only true for the generating facility. Based upon provisional plans, GECL's preferred sites for the expected connections and a new sub-station will bring development to within 500 metres or less of residential properties. This then raises the question of why the GECL preferred route for the connection utilises a double crossing of The Manorway thereby negating the claim in Clauses 1.2.25 and 5.1.1 that the development will be entirely within the London Gateway site. The preferred route, north of The Manorway, is outside the limits of the LG site and into green field, environmentally sensitive, areas. If these new connections were to be underground then no further comment would be necessary but our understanding is that all, or part of, the new connection must be by new pylons/overhead cables across our area and bounding all three of our communities; Corringham, Fobbing and Stanford le Hope. This outcome would constitute an adverse environmental impact in respect of landscape and local amenity and, potentially, local services.

In respect of the planned sub-station this reveals another 'anomoly' in the applicant's proposal. As is repeatedly stated within the ES document (Clauses 1.2.4 and 4.2.29 etc.) the responsibility for the sub-station site is laid at the door of NG with their proposal for a new sub-station at Mucking Flats, well away from residential areas. However, GECL's planned proposals show preference for a site adjacent to The Manorway, probably on local farm land and very close to residential properties. No mention whatsoever is made of this proposal within the ES documentation! We obviously have no knowledge of how influence will be brought to bear in the decision making process and this, again, places emphasis upon the need to consider all these elements together, not individually. This issue also returns us to the matter of the overhead line connection since the route from the proposed generating facility to Mucking Flats could be achieved more directly.

The negative impacts of GECL's apparent sub-station preferences is, potentially, even more significant than for the overhead lines and would, again, incur penalties of landscape and amenity together with concerns regarding adverse electro-magnetic effects for residents in the immediate area.

Conclusion

Whilst we recognise and accept that the current application is in respect of the generating station alone, we would expect that the questions relating to 'connection' constitute material factors in determining this application and are inextricably linked, as stated above. Our conclusion on this application is, therefore, that a majority of people would adopt a positive approach to this generating facility being constructed if this could be achieved without the negative, adverse impacts referenced above. We therefore ask that, if there is to be no public inquiry, the Secretary Of State consider the application for this generating facility as being coincident with the issues highlighted herein and to therefore consider the applications for the generating facility and the necessary connections to be conjoined and/or to apply conditions to any approval such as to ensure that our objectives are met. In the simplest form this can be achieved by installing any new cables underground and siting any new sub-station well away from residential areas.

Yours faithfully

D.G.Parker
SPEAC

Matthew Gallagher

From: Margaret.Keen@thameswater.co.uk
Sent: 08 March 2010 12:01
To: Matthew Gallagher
Subject: REF: 10/50133/TTGELE
Attachments: pic06477.gif

Hi Matthew

The above application number is out side Thames Water area so we will have no comment to make.

Regards
Margaret Keen

Margaret Keen
Planner
Thames Water Utilities Ltd, Maple Lodge, Denham Way, Rickmansworth, WD3 9SQ

(01923 898216 8 Margaret.keen@thameswater.co.uk

(Embedded image moved to file: pic06477.gif)

THURROCK COUNCIL

Civic Offices New Road Grays Essex RM17 6SL

Our ref :10/00844/TDCPOL
Your Ref:08/01149/TTGFUL
Date:10 March 2010

Direct Dial: 01375 652398
Fax: 01375 652780
E-mail: mgentry@thurrock.gov.uk

Thurrock Thames Gateway Development Corporation
Gateway Housel
Stonehouse Lane
Purfleet
Essex
RM19 1NX
01/04/10

F.A.O. Matthew Gallagher
Dear Matthew

ELECTRICITY ACT 1999 SECTION 36 APLICATION TO THE SECRETARY OF STATE TO CONSTRUCT AND OPERATE A 900MW COMBINED CYCLE GAS TURBINE ELECTRICITY GENERATING STATION ON LAND AT THE MANORWAY, STANFORD LE HOPE ESSEX SS17 9PD.

AIR QUALITY (Dean Page air quality officer)

The Air Quality Assessment outlined in the environmental statement volume 1 under section 9, has modelled the impact of emissions from the proposed development using an advanced dispersion model (ADMs) this is recognised as an appropriate tool for assessment purposes for point sources in relation to air quality. A worst case scenario was modelled. The results were compared against both the annual mean objective for nitrogen dioxide (NO_2) of 40 $\mu g\ m^{-3}$ and short term 1 hour objective 200 $\mu g\ m^{-3}$ not to be exceeded more than 18 times.

Two point sources were modelled from the proposed development the combined cycle gas turbine (CCGT) Plant and Boiler Plant were modelled, the boiler plant is not intended for long term use so it was modelled against the short term objective only.

The results indicated that the total contribution of NO_2 emissions from the CCGT plant based on an annual mean would be 0.3 $\mu g\ m^{-3}$ this combined with the background concentration of 19.0 $\mu g\ m^{-3}$ would total 19.3 $\mu g\ m^{-3}$ which will fall well short of the annual mean objective of 40 $\mu g\ m^{-3}$.
The results for the hourly objective showed that the 19th highest hourly concentration was 12 $\mu g\ m^{-3}$, which fall well below 200 $\mu g\ m^{-3}$ objective limit. The 12 $\mu g\ m^{-3}$ was added to a doubled background annual mean concentration of 38 $\mu g\ m^{-3}$ making 50 $\mu g\ m^{-3}$ which is 25% of the objective.
The results for the Boiler Plant for the 19th highest hourly concentration of 49 $\mu g\ m^{-3}$ added to the background concentration of 38 $\mu g\ m^{-3}$ gave a total of 87 $\mu g\ m^{-3}$ which is 43% of the objective.

Based on the findings of the modelled results, there would be no objection to the proposed development on air quality grounds, if these are the only two potential point sources (CCGT Plant & Boiler Plant) which could give rise to NO_2 from the proposed development, they have also demonstrated a conservative approach to the modelling, the results showed that point sources would fall well below both air quality objectives for NO_2.

NOISE AND VIBRATION (C Pomphrett EHO)

The Environmental statement predicts that subject to noise attenuation measures being adopted as quoted below that the operation of the power station will have no residual effects on receptors proposed mitigation measures were submitted as follows:.

"10.7.2 Planning noise limits will be agreed with the Local Authority at the consent stage, and GECL will take all measures required to assure compliance with these planning noise limits.
10.7.3 The following measures would serve to continually monitor and minimise the impact of noise from the GEC:
• A computer model of the proposed plant items will be produced at the detailed design stage, to calculate the predicted noise levels at the NSR locations, and ensure that planning limits are adhered to. Detailed design will ensure that site noise is mitigated as far as possible, through site layout and orientation of noisy plant items.
• Since tonal or impulsive noises are considered more annoying than continuous noise sources, plant items will be silenced or otherwise controlled through regular maintenance to ensure no such emissions are audible at NSR locations.
• A noise survey shortly following the commissioning of the new plant, shall be agreed with the Local Authority. The aim of this survey shall be to ensure that plant noise levels as measured at the agreed NSR locations do not exceed the planning noise limits agreed with the local authority. Noise monitoring shall be undertaken in accordance with BS 4142.
• In the event of a complaint by a local resident relating to noise levels during the operation of the Development, an investigation shall be carried out by the operator, or a representative thereof, to determine the likely cause of the complaint, and if necessary any available remedial measures. Where it is
deemed necessary by the Local Authority, a written report detailing these measures and their effectiveness will be provided.
• In addition to the noise control measures mentioned above, silencers will be fitted to achieve noise attenuation on plant including gas turbine and HRSG inlets *and ductwork. Acoustic lagging and low noise trims will be fitted to specific pipework and noise generating steam valves where required.*
• Acoustic enclosures will be considered, and provided where required, for all plant items where practicable, including for smaller plant items such as compressors and pumps.

• Where required, internal surfaces within the turbine hall should be treated to control internal reverberant noise levels. An appropriate treatment would consist of dense mineral wool panel behind perforated sheet steel, or a spray on cellulose fibre treatment.
• In the interest of maintaining neighbourly relations and residential amenity, the company will give a reasonable period of notice to residents and the local authority prior to any planned non-normal operations that would lead to an increase in noise levels. These planned events will be carried out between 0900 and 1700 hours during the weekdays, wherever possible.
• Although 'normally-off' plant items have not been included in the modelling of normal plant operation, these will be afforded the same level of noise control as all other plant as appropriate".

10.7.2 States that a planning noise limit will be agreed with the LPA at the consent stage table 10.6 predicts that the operational noise will be below existing background noise levels as measured the difference varies between -5 and -20 dB(A) depending on the NSR location with reference to BS4142. 10dB (A) below background if achieved would indicate that there should be no impact from the development between 5 and 10 dB(A) would be of less than marginal significance.
In agreeing a noise limit 5dB(A) below existing background would be acceptable.

10.7.3 Proposes a computer model of the proposed plant items at the design stage to achieve the noise limit as agreed. And the detailed design of the power station will incorporate measures to achieve the agreed limit.

It is not possible to provide detailed comments until the detailed design and modelling is completed.
However subject to the implementation of the mitigation measures as submitted and any agreed noise levels being achieved there should be no significant impact on existing receptors.

It should be noted that the power station will require a permit to operate from the Environment Agency issues of operational noise will be included in the permit and as such the Environment Agency should be consulted on the proposals.

CONTAMINATED LAND (D Blazer contaminated land officer)

The Environmental Statement Volume 1 February 2010 in Section 14 correctly identifies the high potential for hydrocarbon contamination within the soils of the application area. The principle of the remediation of this former Oil Refinery was to undertake a general, site wide investigation and to remediate when contamination was found.

When the site was ready for re-development as a port individual land parcels would be investigated and remediated, if necessary, within the proposed park

area. This approach of site specific assessment is consistent with current UK legislation (Part IIA Environmental Protection Act 1990).

The Environmental Statement correctly proposes an investigation into the soil-gas regime that may exist within the application area. This will be needed in order to protect any future structures on site from the potential of soil-gas ingress and accumulation.

Further soil samples will need to be taken and analysed, in addition to those already, taken by ERM Ltd. These results can then be used to produce a site specific risk assessment to be protective of health for construction workers and future site users. Any soil arisings will need to be analysed and validated, as suitable for purpose, before re-use on site.

The General Assessment Criteria (GAC) for the Gateway Energy Centre should be derived for the end-use of commercial/industrial usage using current UK Guidance. The GAC for soft scaped areas should be derived for residential without gardens.

If piling is proposed as part of the construction the Environment Agency should be consulted in order to determine a suitable method in order to prevent the potential creation of a pathway allowing the existing contamination to migrate to the underlying aquifer.

GENERAL (C Pomphrett EHO)

The environmental statement volume 1 refers to a Construction Environmental management plan (CEMP). I would expect this plan to be submitted and to be approved prior to construction works being commenced.
The plan should include measures to minimise the impact of dust and noise during the construction period
The proposed hours of construction as stated in the statement of 07.00 to 19.00 Mondays to Saturdays with no working on Sundays and bank holidays is acceptable with the proviso that if impact piling is proposed on site a further restriction in operations for such piling activities would be required. I would suggest that impact piling be limited to 08.00 to 18.00 on Mondays to Saturdays. The preferred method of piling would be one that would not require driven piles.
The statement outlines mitigation measures as follows:

Noise

10.7.1 In order to keep noise impacts from the construction phase to a minimum, all construction activities would be carried out in accordance with the recommendations of BS 5228. In addition, the following mitigation measures would be implemented through the Construction Environmental Management Plan (CEMP):
• Initially and until the buildings are closed and capable of providing an 'indoor working environment', construction work will only take place during Monday to Saturdays 07:00 – 19:00 hours. No work on any Sunday or Bank Holidays will be undertaken, unless such work is

associated with an emergency or does not cause existing ambient noise levels to be exceeded at nearby Noise Sensitive Receptors (NSR). Should a need arise, due to technical constraints or similar, with regard to carrying out certain construction work outside the time indicated above, prior written approval from Thurrock Borough Council (TBC) (as the relevant Health Authority) will be sought.

• To the extent required by the local authority, specific method statements and risk assessments would be produced for night working. In order to minimise the likelihood of noise complaints in such eventualities, the contractor would inform and agree the works in advance with the Environmental Health Officer (EHO), informing affected residents of the works to be carried out outside normal hours. Furthermore, the residents would be provided with a point of contact for any queries or complaints.

• All vehicles and mechanical plant used for construction will be fitted with customary exhaust silencers, and regularly maintained.

• Plant construction equipment will be used where appropriate. All major compressors would be sound-reduced models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers.

• All ancillary plant construction equipment such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance. If necessary, temporary acoustic barriers or enclosures would be provided

<u>Dust control</u>

9.7.1 Good site management practices during the construction works will help to prevent
the generation of airborne dust. GECL will require its construction contractors to take sufficient precautionary measures to limit dust generation.

9.7.2 To ensure that atmospheric dust, contaminants or dust deposits generated by the construction do not exceed levels which could constitute a health hazard or nuisance to those persons working on the GEC site or living nearby, a dust monitoring programme will be carried out throughout the construction period as part of the Construction Environmental Management Plan. Details of this are provided in Section 5. If the potential for dust emissions exists, for example on dry windy days, then the following procedures or similar will be followed where appropriate:

• Materials will be assessed for moisture content;

• If material is dry then water will be sprayed on to the working area to suppress
dust;

• Excavation faces not being worked will, if required, be either sheeted or treated with a suitable dust suppressant; and

• All operatives working in areas of potential dust emission will be provided with paper type face masks.

9.7.3 In addition, the following measures or similar will be implemented where appropriate:
• Materials deposited on stockpiles on the GEC site will be closely monitored for any possible emission of dust and if required they will be damped down,
covered or treated with a suitable dust suppressant;
• If finely ground materials are delivered, it may be required that these are in bag form or stockpiled in specified locations where the material can be suitably covered;
• All vehicles carrying bulk materials into or out of the GEC site should be
covered to prevent dust emission, and minimum drop heights will be used during material transfer;
• Potential dust emissions from moving construction plant and site transport will be mitigated by the use of water bowsers, which will dampen all movement areas being utilized by traffic;
• Wheel washing facility will be provided, if necessary, adjacent to the GEC site exit which will be used by all heavy commercial vehicles leaving the GEC site,
preventing the transmission of soil from the GEC site to the public highway; and,
• Also a road sweeping vehicle will be employed when required during the construction period to remove dust and dirt from all the public roads.

These mitigation measures must be included and adopted in the CEMP. The CEMP should also include a waste management plan.

If during construction any significant contamination is encountered, a contingency plan to deal with any such contamination with any additional control measures to deal with the contaminated material should be included in the CEMP..

As included any noisy works required to be carried out outside of the hours stated liaison between the developer and Thurrock Council's Environmental Heath department is essential.
I understand that the developments is within the boundary of the landside port development and there is a condition requiring the developer to enter into a prior consent agreement with the Council under a section 61 of the Control of Pollution Act 1974 (COPA) for the control of noise during construction.

Yours Sincerely

C Pomphrett
Environmental Health Officer
Pollution Control Team

THURROCK COUNCIL

www.thurrock.gov.uk

Sustainable Communities, Civic Offices, New Road, Grays Thurrock, Essex RM17 6SL

Date Received: 10th March 2010
Target Date: 27th March 2010

Our Reference:	10/01589/TDCGEN
Your Reference:	10/50133/TTGELE
Responses From:	AC SP

Matthew Gallagher
01708 895441
Thurrock Thames Gateway Development Corporation

Dear Matthew

Address: The Manorway, Stanford le Hope

Proposal: Electricity Act 1989 section 36 application to the secretary of state to construct and operate a 900mw combined cycle gas turbine electricity generating station on land at the Manorway Stanford le Hope.

We are writing to provide comments with regards to Landscape and Ecology matters of the above application.

Policy Context: E8A Oil Refineries

Summary: The proposal is considered insufficiently supported by the assessment of direct and indirect effects predicted to be generated by this development.

Alison Campbell Principal Landscape Officer Ext 2927
The scale and scope of the Landscape and Visual Impact assessment (LVIA) is considered to be a preliminary assessment. The consideration of direct effect of infrastructure and cumulative effect of infrastructure and adjacent development needs to be assessed in further detail to enable consideration of opportunities for primary and secondary mitigation. Secondly the range of receptors is consider to be indicative and does not consider the potential scale and types of receptors likely to experience landscape and visual effects.

Assessment of direct, indirect and cumulate effects

The current baseline is assessed where by vertical structures rise above marshlands and open views of River Thames. The GEC Power Station would be predicted to be

a distinct landmark lying between a Bitumen Plant to the west and CEL Power Station to the east. The GCE Power Stations raised out of the marshland with a foreground of Shell Haven and Thames Haven storage structures. It is predicted that the proposed GEC Power Station will be perceived as significant intensification of large scale coastal edge development. The contrast of the proposed structures to the surrounding marshland and the apparent visual separation of CEL and the GEC power stations are predicted to generate significant effects to receptors laying NW to NE and SE to SW. It is considered that the current appraisal has underestimated the likely LVIA effects of this baseline.

London Gateway Development (LGD) is not developed as presented and illustrated in the supporting photomontages.

Alternative options for the functional infrastructure requirements of the proposed development i.e. gas supply pipe line and electrical transmission connections, are presented in brief. These elements are considered to generate direct landscape character and visual amenity effect and therefore should form part of the LVIA.

If works are required to be carried out by others, in relation to increasing the local capacity of electricity transmission these elements would be considered to generate indirect landscape character and visual amenity effect and therefore should form part of the LVIA.

Carbon capture pipe work to the River Thames is considered to be a foreseeable future requirement. The route and easement requirements are considered to be indirect effects and therefore should from part of the assessment.

London Gateway logistic park and DP Wold Deep Sea Port are major development scheduled for the area. There is sufficient detail in the public realm to establish a future baseline. It is predicted that the novelty of structures, i.e. stacks and the scale of buildings rising above the LGD design guide of height zones would generate landscape character and visual amenity effects and therefore should form part of the LVIA.

The urban scale of architectural design and mitigation presented in the Design and Access Statement are helpful however the findings are not agreed with. Further options for mitigation by design should be considered. These should include consideration of green wall technology, particularly for outward facing elevations, aligning turbine locations with the road layout, using visual distraction and dazzle camouflage to break down the mass and symmetry of proposals as seen from within the LGD.

Selection of Receptors

The number and range of visual receptors is considered to provide an indicative assessment only. It is recommended that agreement of key and representative view be sought from planning authorities within the study area.

Within Thurrock, panoramic views are considered to be likely from the following settlements: Corringham, Fobbing, Horndon-on-the-Hill and Stanford-le-Hope.

Consideration of the scale and severity of effects for dwelling, recreation spaces and adjacent public rights of way should form part of the assessment.

It is noted that views section includes views of near and middle distance features which may not be representative of a wider selection of viewpoints.

10.05.17 AJC

Steve Plumb Specialist Ecology Advisor Ext 2927
The London Gateway development in which this proposal is situated has been subject to extensive ecological surveys and an agreed Ecological Management and Mitigation Plan. This process has been overseen by an Ecological Advisory Group which includes Natural England, Environment Agency and NGOs. Thurrock Council is one of four voting members of the Group. Based on my role with the EAG since 2008 I would confirm that licences have been issued by Natural England for the translocation of all protected species from the site.

I feel that the overall scope for the ecology section is appropriate for the proposed site although I am concerned that no consideration has been given to the requirement for additional infrastructure such as pylons away from this site. I would consider that it would be appropriate to adopt the 'Future Baseline' as recommended seeing as construction work is already underway on the London Gateway site and therefore species as being cleared at the current time.

As the 'future baseline' treats the site as bare ground I would accept the conclusions that there would be limited impact on the ecology of the site. I am surprised to see in 12.6.26 that is has been concluded that Thundersley Great Common SSSI is unfavourable recovering condition due to the impact of NO_x. The reason for the unfavourable condition was due to the lack of appropriate management which has now been addressed.

An important part of the landscape masterplan for the London Gateway is the provision of habitat opportunities within the site. Detail has not been provided for the individual development sites and therefore I would support the proposal in 12.7.19 to incorporate additional ecological mitigation measures within any landscape scheme that would complement the agreed LG landscape masterplan.

My main concern is the lack of detail as to the impact of any external infrastructure such as pylons and overhead cables on the wider landscape and ecology. These have the potential to cause significant impacts depending on their routes. It is not clear how a route could be provided that does not pass through areas of national or county significance. It is felt that it is not possible to fully assess the impact of the operational plant until this has been addressed.

6.4.10 SP

Highways Response

To:-	**Head of Strategic Planning and Delivery**
From:	**Highways Development Control**
This matter is being dealt with by:	Nathan Drover
Date:	13th April 2010
Application No.	10/50133/TTGELE
Address:	Shell Haven, The Manorway, Corringham, Essex, SS17 9LP,
Proposal:	Section 36 Application to construct and operate a 900MW Combined Cycle Gas Turbine Electricity Generating Centre

RECOMMENDATION: Further information required

UNCLASSIFIED

Section 15 of the Environmental Statement deals with Transportation issues. The scope of this section was not agreed with Thurrock Council as local highway authority and it is unclear whether it was agreed with the Highways Agency. The operational traffic arising from the GEC is not likely to be material in the context of the wider London Gateway proposals. However the construction traffic (estimated up to 600 personnel a day) and major maintenance outages (400 temporary staff) are likely to have a material impact. The Transport section of the ES includes some assumptions which need more detailed consideration and some further information is required, as set out below:

i) The TA should allow for an agreed level of additional London Gateway operational/construction traffic "in-combination" with GEC construction traffic. This may highlight the need for the acceleration of some of the earlier London Gateway triggers, in particular the interim signalisation of the A1014/A13 roundabout. (Please note Tables 15.16 and 15.17 do include an "in-combination" assessment of operational traffic alone on the A13. Table 15.12 includes an "in-combination" assessment of London Gateway construction traffic and GEC construction traffic, albeit this is not agreed for the reasons set out in (iii) below).

ii) The TA accepts that there is a capacity problem on the A13. Albeit the use of Congestion Reference Flows to assess capacity does not adequately highlight the A13 east bound evening peak capacity constraints and queues arising from condensing the A13 (3-lane) into A13 (dual) at the junction with the A128. Neither does it identify the A1014 west bound morning junction capacity constraint and queues at the A13/A1014 roundabout. If the scope of the TA had been agreed with the local highway authority, it would have focussed the off-site assessment on these two areas, (aside of course from trunk road issues). These particular aspects should be considered, including some additional allowance for London Gateway operational/construction traffic in combination with GEC construction traffic. The GEC proposal and any mitigation concerning construction traffic will not bring forward the A13 widening scheme, however it is important to understand what weight is given to the need to manage construction traffic outside of peak hours.

iii) Notwithstanding the above, Tables 15.5, 15.6, 15.7 and 15.8 provide an estimate of the GEC construction traffic impact on the A13 dual and 3-lane section and Table 15.12 includes an in-combination assessment with London Gateway construction traffic. However these tables assume that the bulk of the GEC construction traffic arrives at 6.00-7.00am and leaves at 7.00 – 8.00pm when background traffic levels are lower and therefore concludes that the GEC traffic will not cause a change in the A13 peak hours. Para 15.6.14 suggests that the "Transport Management Plan" will ensure that the GEC construction traffic will have an insignificant impact on local transport infrastructure. This is not a realistic assumption and I would expect the assessment to show a more representative level of construction traffic using the local road network in peak hours. (In-combination with an additional allowance for the London Gateway construction/operational traffic). The developers may however wish to show how construction traffic will be controlled within these times, including any parking restrictions on the Manorway if this includes exclusion of visitors at certain times.

iv) Using any agreed revised assumptions from Item (i) – (iii) above, Gate 3 capacity and safety should be reviewed. In particular considering whether temporary signalisation and a lowered speed limit will be required for the construction phase, (albeit this may not be a problem if all vehicle movements are to/from the west, i.e. no right turns out).

v) Tables 15.5 and 15.6 consider the impact on the operational staff traffic on the A13. Para 15.6.30 concludes that the major maintenance outages (400 contracted engineering staff on-site) will be below that level of traffic generated during the construction phase and therefore will similarly not have a material impact. For the reasons given above this is not agreed, albeit it is more likely that a shift system for the maintenance outages could be agreed which avoids peak hours and therefore this may be within the scope of a "Transport Management Plan" to control.

vi) Para 15.7.2 – 15.7.5 deals with the Transport Management Plan and makes reference that it will incorporate a Green Travel Plan. These paragraphs indicate that the TMP measures will be agreed once the final contractor has been agreed. If the assumptions in the TA are to be accepted, then the TMP should give a basic indication of how the construction traffic will be managed outside peak hours. It should also include a framework travel plan for construction and operational staff.

vii) Para 15.7.6 – Abnormal Loads – It is unclear whether the delivery of abnormal loads by river has been considered or indeed whether the circulatory carriageway of the current A1014/A13 roundabout will be adequate to accommodate the anticipated abnormal loads.

viii) In allowing London Gateway Port proposals the Secretary of State accepted the deficiencies in vehicle capacity along the A13 and at its junction with the M25 and number of other local transport deficiencies. A scheme of mitigation was developed in conjunction with that permission. If the GEC is permitted and the London gateway developable land is reduced, it is unclear whether the permitted London Gateway commercial footprint will be reduced corresponding to the reduction in developable site area. Or alternatively, whether the permitted footprint will be condensed into a higher density commercial site. This may have implications for the triggers set out in The London Gateway permission; therefore clarification is required as to whether the GEC proposal will affect the final quantum of development on the London Gateway site.

Regards: Nathan Drover
Date: 13 April 2010

Mohammed Gary (Energy Development)

From: Mohammed Gary (Energy Development)
Sent: 22 March 2010 09:57
To: 'WILLIAM DAWSON'
Subject: RE:

Sorry forgot to give link

http://www.gatewayenergycentre.co.uk/applications.htm

From: Mohammed Gary (Energy Development)
Sent: 22 March 2010 09:54
To: 'WILLIAM DAWSON'
Subject: RE:

Dear Mr Dawson

Apologies for the delay in replying. The following link gives access to the Environmental Statement and other supporting documentation. Paragraphs 3.3.5 & 6 of the Planning Statement and Figure 6.2 of the ES Volume 3 give information on the electrical connection. Should you have difficulty accessing these could you let me have your address and I'll send you a hard copy.

Regards

Gary

Gary Mohammed
Manager, Power Station and Pipeline Consents
Department of Energy and Climate Change
Area A, 3rd Floor
3 Whitehall Place
London SW1A 2AW

Tel: 0300 068 5681
Fax: 0300 068 5003

email: gary.mohammed@decc.gsi.gov.uk

From: WILLIAM DAWSON [mailto:bill.dawsonr@blueyonder.co.uk]
Sent: 11 March 2010 11:32
To: Mohammed Gary (Energy Development)
Subject:

Dear Sir

Although i have no objections to a new power station to be constructed on land at The Manorway, Stanford Le Hope.
My concern is where the route of the overhead power lines will go, and where the new sub station will be built to connect
these lines.
Could you please provide me with these details

Mr W G Dawson.

APPENDIX B

FRAMEWORK SUSTAINABILITY PLAN

B FRAMEWORK SUSTAINABILITY PLAN

B.1 Overview

B.1.1 Following submission of the ES, and consultation on the application, a number of Consultee Responses have commented on the possibility of incorporating sustainability into the detailed design of GEC.

B.1.2 This Appendix provides a framework sustainability plan which aims to provide details of features which could be investigated throughout the detailed design of GEC.

B.2 Framework Sustainability Plan

B.2.1 As noted in the ES, the detailed design of GEC will not be completed until a construction contract is in place and, as such, a degree of flexibility is required in the design described in the ES.

B.2.2 This approach has a number of benefits attached, as many plans and initiatives are still to be developed. Therefore there is an increased potential for a number of opportunities which are identified during the consenting phase to be incorporated into the detailed design.

B.2.3 As such, many plans, initiatives and opportunities are still in development. Sustainability, in particular, is a rapidly evolving discipline with new methods and technologies continually being developed to reduce environmental impacts and maximise social and economic benefits.

B.2.4 This Appendix has been prepared to set out how sustainability could be incorporated into the detailed design of GEC (covering the design and construction, and operational phases), and outlines potential sustainability opportunities which should be further investigated at the detailed design stage.

B.2.5 It should be noted that this Framework Sustainability Plan should be a 'live' document which will be updated as new opportunities, technologies and practices which have not yet been considered arise; such is the pace of change in this field. Therefore updates may be provided to this Appendix that has been informed by feedback from and dialogue with interested stakeholders. In using this approach InterGen hope to achieve the best possible outcomes for sustainability throughout the development of GEC.

B.3 Sustainability Options

B.3.1 The following Table describes a number of potential sustainability options which could be incorporated into the design and construction, and operational phases of GEC.

Phase	***Example of Sustainability Options***
Design and Construction	• Design of buildings • Sourcing of building materials • Construction impacts • Construction methods and materials for temporary storage compounds • Community relations and consultation • Local benefits from construction • Health and safety on site, and health of construction workforce • Waste management
Operation	• Energy infrastructure • Building performance • Climate change – Carbon Capture Readiness

B.3.2 Further information on a number of these sustainability options is provided below.

B.4 Identified Sustainability Opportunities

Design and Construction

Design of Buildings

B.4.1 Potential sustainability features to be investigated further during the design of GEC include:

- Green roof (partial or full) on the administration building;
- Loose earth banks;
- Vertical garden wall, which is south facing;
- Sustainable drainage; and
- Rain water harvesting.

Construction Impacts

B.4.2 The ES has identified potential construction impacts associated with the development of GEC.

B.4.3 Where possible, construction contracts will encourage the re-use and re-cycling of materials where practicable. The Construction Environmental Management Plan (detailed in ES Section 4.3) will be developed to include sustainability and environmental issues.

Community Relations and Consultation

B.4.4 GECL has, and will continue, to inform the local community of the proposal regarding GEC via a number of measures. To date, these have included: meetings; exhibitions (Residents Information Days); newsletters; website and free e-mail; freephone and freepost; advertisements; and, press releases.

B.4.5 Details of the consultation undertaken thus far for the development of GEC are provided in the Statement of Community Involvement (SOCI) which accompanied the Section 36 Consent application.

B.4.6 GECL will continue to inform the local community of the proposals regarding the development of GEC, including the proposals for the required infrastructure connections, in a similar manner later this year.

B.4.7 In doing so, GECL hope to incorporate the views of the local community into the development of GEC, and the infrastructure connections, wherever possible and will strive to maintain appropriate relationships with the local community.

Waste Management

B.4.8 A Site Waste Management Plan will be developed to maximise the reduction, re-use and re-cycling of waste generated. This will be developed in line with the information available on:

- http://www.wrap.org.uk;
- http://www.tcpa.org.uk/pages/towards-zero-waste.html; and
- http://www.smartwaste.co.uk (BRE's SMARTWaste Plan).

Operation

Energy Infrastructure

B.4.9 Current Government Policy promotes the development of low carbon energy, and is supportive of development which will speed up the transition to a low carbon economy.

B.4.10 GEC will be designed to be Carbon Capture Ready which if CCS is implemented will have a positive net effect on climate change. This is discussed below.

Climate Change – Carbon Capture Readiness

B.4.11 Once operational, GEC may have a positive net effect on climate change as it will contribute to replacing other fossil fuel sources of electricity that have greater carbon dioxide (CO_2) emissions per unit output.

B.4.12 Additionally, GEC will be designed to be CCR, with space made available in the design to allow for the retrofitting of a carbon capture plant in the future. Once installed the carbon capture plant could capture approximately 90 per cent of the CO2 emissions from GEC, thus preventing their release to the atmosphere. This is discussed further in the CCR Feasibility Study which accompanies the Section 36 Consent application.

APPENDIX C

LG DEVELOPMENT OPA CONDITIONS

Annex A

1. No part of the development hereby permitted shall be commenced until details of siting, design, external appearance of the proposed buildings, and landscaping (hereinafter called the Reserved Matters) in respect of that part of the development have been submitted to and approved in writing by the Local Planning Authority, and the development shall not be carried out otherwise than in complete accordance with the details so approved. Application for the approval of the reserved matters for the first stage of development shall be made to the local planning authority before the expiration of three years from the date of this permission.

2. The development hereby permitted must be begun either before the expiration of five years from the date of this permission, or before the expiration of two years from the date of the approval of the last of the reserved matters for the first stage of development, whichever is the later.

3. No development apart from (a) the access roads permitted in this permission (or any permitted variation to it) or ancillary highways works, (b) landscaping works, (c) ecological mitigation works, (d) the provision or diversion of services and service media, (e) the creation or diversion of footpaths, or (f) acoustic mitigation works shall take place on land outside the site of the Shell Haven Refinery designated for refinery expansion as the same is shown on the attached Chetwood Associates plan AO 1156-247C.

4. No development apart from (a) the access roads permitted in this permission (or any permitted variation to it) or ancillary highways works, (b) landscaping works, (c) ecological mitigation works, (d) the provision or diversion of services and service media, (e) the creation or diversion of footpaths, or (f) acoustic mitigation works shall take place on any land coloured green on the attached Chetwood Associates plan AO 1156-247C.

5. The development hereby approved shall be carried out in accordance with the development parameters at paragraph 3.10.1 and Appendix A (with the exception of car parking standards) of the Architectural Design and Sustainability Guide (CD 640) (which forms part of the application).

6. No building within the defined zones illustrated on the Concept Masterplan Height Zoning Plan reference A01156-181 (Architectural Design and Sustainability Guide, Appendix C) (Annex 1 of APP/0/131) shall exceed the heights for each zone as specified on the plan.

7. Prior to the commencement of development of each part of the development for which Reserved Matters have been approved, details and samples of all materials to be used in the construction of the external surfaces of the buildings and any external plant and equipment shall be submitted to and approved in writing by the Local Planning Authority and the development shall be implemented using the approved materials.

8. Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 1995 (as amended) (or any order revoking and re-enacting that Order with or without modification), and before the commencement of each part of the development for which Reserved Matters have been approved, a scheme showing full details of fences, walls, gates or other means of enclosure shall be submitted to and approved in writing by the Local Planning Authority, and thereafter these works shall only be undertaken in accordance with such approval.

9. Fences, walls, gates or other means of enclosure of the application site shall not be higher than 3 metres above the adjacent ground level.

10. No manufacturing, fabrication or other industrial process shall take place outside the confines of any buildings on the site unless otherwise agreed in writing by the Local Planning Authority.

11. Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 1995 (or any order revoking and re-enacting that Order), any oil and other chemical storage tanks, buildings, ancillary handling facilities, filling, drawing and overflow pipes shall be enclosed within an impervious bunded area of at least 110% of the tank capacity, a scheme for which shall be submitted to and approved in writing by the Local Planning Authority. The scheme as approved shall be fully implemented before the relevant part of the development to which a Reserved Matters approval relates is first occupied or brought into use.

12. Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 1995 (as amended) (or any order revoking and re-enacting that Order with or without modification) no additional floor space by way of extension or the insertion of a mezzanine floor shall be added to any building without the prior written approval of the Local Planning Authority.

13. Office (B1(a)) uses permitted within the application site shall be used for purposes ancillary to the main uses of the development approved (whether B1(b)/B1(c), B2 or B8 of the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification)) and shall not be occupied separately.

14. In relation to the Class A1 uses of the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification) proposed on site pursuant to this permission, no individual retail unit shall have a gross floor area in excess of 900 square metres, and the total gross floor area of such A1 uses on the application site shall not exceed 1,500 square metres.

15. Notwithstanding the provisions of Article 3 and Class A1 of the Schedule to the Town and Country Planning (Use Classes) Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification), none of the Class A1 floor space shall be used for the sale of furniture, clothing, fashion or footwear items or household electrical goods.

16. In relation to the Class A2 uses of the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification) proposed on site pursuant to this permission, no individual unit shall have a gross floor area in excess of 900 square metres, and the total gross floor area of such A2 uses on the application site shall not exceed 1,500 square metres.

17. In relation to the Class A3 uses of the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification) proposed on site pursuant to this permission, no individual unit shall have a gross floor area in excess of 750 square metres, and the total gross floor area of such A3 uses on the application site shall not exceed 1,250 square metres.

18. In relation to the Class C1 uses of the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification) proposed on site pursuant to this permission, the use shall be restricted to that of "hotel" within the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification) and shall not be used for any other use within Class C1.

19. In relation to Class D2 uses within the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification) proposed on site, such uses shall be restricted to uses falling within Class D2(e) only within the Use Classes Order 1987 (as amended) (or any equivalent class within an order revoking and re-enacting that Order with or without modification) and shall not be used for any other D2 use. The total gross floor space for Class D2(e) uses shall not exceed 3,500 square metres.

20. Any retail use or sales from buildings in B1, B2 or B8 use shall be ancillary to those uses.

21. Prior to its construction, details of any estuary viewing area shall be submitted to and approved in writing by the Local Planning Authority. The estuary viewing area shall be constructed in accordance with the approved details.

22. No development other than site clearance and preparation shall commence until full details of the scope and arrangement of the proposed foundation design, including methods of piling, final ground levels, and all other new groundworks have been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details.

23. The detailed mitigation measures set out in the OPA Environmental Statement [CD 613] submitted with the application shall be implemented in accordance with the specified provisions of the mitigation strategy including timing, unless provided for by any other condition or agreement attached to this permission, or otherwise agreed in writing with the Local Planning Authority.

24. For ten years after the date of commencement of the development no permanent building, engineering or other development (excluding landscaping, utilities, drainage, rail connections or road access) other than as part of a port shall be carried out in the hatched strip on the plan no AO 1156 – (Annex 3 of APP/0/131). This condition shall expressly not preclude rail or road access and connection to and across the Thameshaven branch railway line and to the land south of the existing railway line.

25. With each application for approval of Reserved Matters a detailed survey of existing ground levels, details of any proposed landraising, the final ground level of the development and the finished floor level of the building(s) shall be submitted. The works shall be carried out in accordance with the details approved.

26. Prior to the occupation of any part of the development for which Reserved Matters have been approved for B1(b)/B1(c), B2 or B8 uses, details of all external storage of any goods, machinery or materials to be stored anywhere on the site (including the location and height of such storage) shall be submitted to and approved in writing by the Local Planning Authority and the development shall be carried out in accordance with the written approval.

27. Prior to the commencement of development of each part of the development for which Reserved Matters have been approved, drawings showing both foul and surface water drainage (including the provision of oil interceptors) connected with the development shall be submitted to and approved in writing by the Local Planning Authority, and thereafter the works shall only be undertaken in accordance with the approval. The works approved shall be completed prior to the occupation of the first building pursuant to a Reserved Matters approval on the site.

28. No development pursuant to any Reserved Matters approval shall take place until a scheme for any interference or diversion of watercourses and/or land drainage attenuation measures in relation to off-site roads for which approval is sought have been submitted to and approved in writing by the Local Planning Authority

29. Prior to the commencement of development of each part of the development for which Reserved Matters have been approved details of a temporary drainage scheme, including the number and location of proposed oil and petrol interceptors, shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, no development shall commence until the temporary drainage scheme has been constructed and made operational to the site in respect of each Reserved Matters approval plot. The approved scheme for each Reserved Matters approval plot shall be maintained in an operational state during the construction process until its replacement by an approved permanent scheme for site drainage is secured.

30. No development other than site clearance and preparation shall commence until a scheme for the monitoring of all drainage outfalls at the point where they exit the application site has been submitted to and approved in writing by the Local Planning Authority and the development shall thereafter be carried out in accordance with the approved scheme.

31. No development other than site preparation works shall commence until:

- a flood risk assessment based on the indicative Masterplan of the effect of the proposals upon the land in the ownership of BP, as shown on the Plan attached as Annex 4 of APP/0/131, has been submitted to and approved in writing by the Local Planning Authority; and

- any flood risk prevention measures set out in the flood risk assessment agreed to be necessary to correct additional adverse flood risk (if any) over and above the existing flood risk arising as a result of the development have been completed.

32. The site shall be promoted for development generating rail freight, and for a period of at least ten years from the date of this permission, no development shall take place in an area comprising not less than 50ha of the land situated within a zone 300 metres from (a) the Thameshaven branch line (the boundary of which land is shown delineated by a dotted line marked "Indicative 300m zone – 50ha" on the drawing number 1156-505D) or from (b) the common user siding, without provision having been made for rail access to the national rail network via the Thameshaven branch line (whether directly or through the common user siding). No development shall take place within the site which would prejudice the provision of such rail access.

33. CONDITION DELETED – OBJECTIVES MERGED WITH CONDITION 32.

34. Prior to the occupation of 400,000 sq m GEA of buildings in B8 use, a single common user siding shall be provided within the development site to service the development, together with hardstanding and facilities that can accommodate the rail freight movements generated by the B8 uses on the site, in accordance with a scheme to be submitted to and approved in writing by the local planning authority.

35. The Reserved Matters submitted shall include details which comply with the parking standards in Annex 7 of APP/0/131 and development shall be carried out in accordance with those standards.

36. Parking spaces shall be made available for use during the whole of the time that any part of a building is open to the staff employed within the building or to persons visiting the building in accordance with a scheme to be submitted to and approved in writing by the Local Planning Authority under condition 35 above. A scheme for the provision of priority parking for car sharers and those with a disability shall be incorporated in each Reserved Matters submission and, following approval, the priority parking provision shall be provided in the development in accordance with the approved scheme.

37. No development of any unit of occupation within the development shall commence unless details of loading, unloading and turning space for that unit of occupation have been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details.

38. The access road referred to in conditions 39-44 below shall be constructed in accordance with the standards specified in Appendix A of the Architectural Design and Sustainability Guide (CD/640). Prior to the construction of the highway improvements specified below, access to the site shall be obtained from the Manorway via the existing Shell Oil Refinery Gates 1, 2 or 3.

39. No more than 420,000 square metres of B1(b), B1(c), B2 and B8 development shall be first occupied prior to the completion of the new access road as a single carriageway road (including a cycleway and footway).

40. No more than 868,000 square metres of the B1(b), B1(c), B2 and B8 development shall be occupied prior to the completion of the new access road as a dual carriageway road (including a cycleway and footway).

CONDITIONS RELATING TO THE OPA IN THE EVENT THAT BOTH THE OPA AND HEO ARE IMPLEMENTED

41. For the purposes of the following in-combination conditions the following definitions will apply:

    "Berth" = 350m of quay within the area of jurisdiction of the Harbour Authority

    "Ro-Ro" = 400m of quay within the jurisdiction of the Harbour Authority

    "occupation" (of a berth) = the carrying out of operations within the Port generating revenue from customers from the loading and unloading of commercial cargoes from ships

42. In the event of this development being implemented in combination with the grant of consent for the London Gateway Port Harbour Empowerment Order (to be made) or any Harbour Empowerment Order on land adjacent to the application site then no more than the following combinations of B1(b), B1(c), B2 and B8 and port development shall be first occupied prior to the completion of the new access road as a single carriageway road together with a cycleway, footway and alongside the carriageway the provision for appropriate emergency stacking space for lorries accessing the port and including a Pegasus crossing where the access road crosses diverted footpath 190:

    - 377,000 sq m and the Ro-Ro (or 1 berth) or
    - 324,000 sq m and the Ro-Ro and 1 berth (or 2 berths) or
    - 271,000 sq m and the Ro-Ro and 2 berths (or 3 berths)

43. In the event of this development being implemented in combination with the grant of consent for the London Gateway Port Harbour Empowerment Order (to be made) or any Harbour Empowerment Order on land adjacent to the application site then no more than the following combinations of B1(b), B1(c), B2 and B8 and port development shall be first occupied prior to the completion of the new access road as a dual carriageway road together with a cycleway and footway and including a Pegasus crossing where the access road crosses the diverted footpath 190:

- 825,000 sq m and the Ro-Ro (or 1 berth) or
- 772,000 sq m and the Ro-Ro and 1 berth (or 2 berths) or
- 719,000 sq m and the Ro-Ro and 2 berths (or 3 berths) or
- 666,000 sq m and the Ro-Ro and 3 berths (or 4 berths) or
- 613,000 sq m and the Ro-Ro and 4 berths (or 5 berths) or
- 560,000 sq m and the Ro-Ro and 5 berths (or 6 berths) or
- 507,000 sq m and the Ro-Ro and 6 berths (or 7 berths)

44. Upon the commencement of use of the new access road to the application site for vehicular traffic, all vehicular traffic shall use the new access road and no other means of vehicular access to the application site shall be available for vehicular access (with the exception of emergency vehicles and buses or unless otherwise agreed to in writing by the Local Planning Authority).

45. Prior to the submission of the first reserved matter, details of the alternative means of access to the site for buses and emergency vehicles (including details of access gates and all access points) shall be submitted to and approved in writing by the Local Planning Authority, and thereafter any works to access points or gates shall be completed in accordance with the approved details.

46. Prior to the commencement of development of any part of the application site, a temporary hardstanding for the purpose of delivery and storage of construction materials shall be constructed on site at a location and of materials to be approved in writing by the Local Planning Authority, and the approved hardstanding shall be used at all times for the delivery and storage of materials.

47. CONDITION DELETED

48. No more than 450,000 square metres of the B1(b), B1(c), B2 and B8 development shall be first occupied prior to the completion of the highway works to the A13/A128 junction indicated on figure 6.3a[1] (or such similar works as may be agreed in writing with the Local Planning Authority).

49. No more than 157,000 square metres of the B1(b), B1(c), B2 and B8 development shall be first occupied prior to the installation of a traffic signalisation system at the A13/The Manorway junction as indicated on drawing figure 4.1 (or such similar works as may be agreed in writing with the Local Planning Authority).

50. No more than 300,000 square metres of the B1(b), B1(c), B2 and B8 development shall be first occupied prior to the completion of the highway works to the A13/The Manorway junction indicated on figure 4e revision E (the 4 lane widening) (or such other works as may be agreed in writing by the Local Planning Authority).

[1] Figures referred to in conditions 48-54 are attached to APP/0/131

51. No more than 200,000 square metres of the B1(b), B1(c), B2 and B8 development shall be first occupied prior to the completion of the following works:

(i) Highway works to The Sorrells/A1014 junction as indicated on drawing figure MRW-01 Rev 7H (or such other works as may be approved in writing by the Local Planning Authority); and

(ii) Toucan crossings at Springhouse Road and at The Sorrells junction; and

(iii) Improvements to the two pedestrian subways at the Manorway; and

(iv) The noise mitigation works for the junction in accordance with the drawing attached at Annex 8 of APP/0/131, Drawing 1 of 4 (or such other works as may be approved in writing by the Local Planning Authority)

52. In the event of this development being implemented in combination with the grant of consent for the London Gateway Port Harbour Empowerment Order (to be made) or any Harbour Empowerment Order on land adjacent to the application site then no more than the following combinations of B1(b), B1(c), B2 and B8 and port development shall be first occupied prior to the completion of the highway works to the A13/A128 junction indicated on figure 6.3a (or such similar works as may be agreed in writing with the Local Planning Authority):

(i) 407,000 sq m and the Ro-Ro (or 1 berth) or
(ii) 390,000 sq m and the Ro-Ro and 1 berth (or 2 berths) or
(iii) 373,000 sq m and the Ro-Ro and 2 berths (or 3 berths)

53. In the event of this development being implemented in combination with the grant of consent for the London Gateway Port Harbour Empowerment Order (to be made) or any Harbour Empowerment Order on land adjacent to the application site then

i) no more than 100,000 sq m of the B1(b), B1(c), B2 and B8 development together with the Ro-Ro (or 1 berth) shall be first occupied prior to the installation of a traffic signalisation system at the A13/The Manorway junction indicated on figure 4.1 (or such similar works as may be agreed in writing with the Local Planning Authority) in combination with occupation and/or operation of the Ro-Ro.

ii) No more than the following combinations of B1(b), B1(c), B2 and B8 and port development shall be first occupied prior to the completion of the highway works to the A13/The Manorway junction as indicated on figure 4e revision E (or such other similar works as may be agreed in writing with the Local Planning Authority):

(a) 332,000 sq m of development and the Ro-Ro (or 1 berth); or
(b) 315,000 sq m of development and the Ro-Ro and 1 berth (or 2 berths); or
(c) 298,000 sq m of development and the Ro-Ro and 2 berths (or 3 berths)

54. In the event of this development being implemented in combination with the grant of consent for the London Gateway Port Harbour Empowerment Order (to be made) or any Harbour Empowerment Order on land adjacent to the application site then no more than 157,000 sq m of the B1(b), B1(c), B2 and B8 development shall be first occupied prior to the completion of the following works in combination with the Ro-Ro (or 1 berth):

    i) Highway works to The Sorrells/A1014 junction as indicated on drawing figure MRW-01 Rev7H (or such other works as may be agreed in writing with the Local Planning Authority); and

    ii) The Toucan Crossings at Springhouse Road and The Sorrells junction; and

    iii) Improvements to the two pedestrian subways at the Manorway; and

    iv) The noise mitigation works for the junction in accordance with the drawing attached as Annex 8 of APP/0/131, Drawing 1 of 4 (or such other works as may be agreed in writing with the Local Planning Authority).

    v) The provision of a Sologuard barrier system (or equivalent approved by the local planning authority) on the Manorway to enable the creation of a contraflow traffic system in the event of disruption to the normal operation of traffic on that road.

55. In the event of the development being implemented in combination with the grant of consent for the London Gateway Port Harbour Empowerment Order (to be made) or any Harbour Empowerment Order on land adjacent to the application site then no more than 167,000 sq m of B1(b), B1(c), B2 and B8 development and the Ro-Ro (or 1 berth) shall be first occupied prior to the completion of the construction of the acoustic barriers in accordance with condition 70 in combination with the occupation and operation of the Ro-Ro.

56. In the event of the development being implemented in combination with the grant of consent for the London Gateway Port Harbour Empowerment Order (to be made) or any Harbour Empowerment Order on land adjacent to the application site then no more than the following combinations of B1(b), B1(c), B2 and B8 development and port shall be first occupied prior to the completion of re-surfacing works to provide a low noise road surface (in accordance with a scheme to be submitted to and approved by the Local Planning Authority) to the Manorway between the A13 junction and up to and including The Sorrells junction:

    i) 768,000 sq m and the Ro-Ro and 4 berths (or 5 berths) or
    ii) 384,000 sq m and the Ro-Ro and 5 berths (or 6 berths)

57. The detailed provisions of the Travel Plan (APP/0/104 and APP/0/103) shall be implemented immediately following the commencement of development of the first building of the development hereby permitted.

58. As part of each Reserved Matters application for premises falling within Use Classes B8, B2, B1(b) and B1(c), written explanation shall be provided setting out the measures to be employed to secure compliance with the provisions of the agreed Travel Plan (APP/0/104 and APP/0/103). No building falling within the specified Use Classes shall thereafter be first occupied until the written approval of the Local Planning Authority to those measures has been received (which shall be consistent with the provisions of the agreed Travel Plan). The Travel Plan measures to form part of the submission shall include but need not be restricted to (where relevant):

- the availability of season ticket loans and any other financial incentives to use means of travel other than the private car
- access to public transport information including real time bus information
- the availability of preferential parking
- the availability of measures for a "guaranteed ride home"
- annual staff travel surveys

59. With each application for approval of Reserved Matters details of the following shall be submitted to the Local Planning Authority and the works shall be carried out in accordance with the approval:

(a) the provision of secure cycle lockers;
(b) provision of cycle cages;
(c) provision of shower facilities;
(d) provision of priority parking for car sharers;
(e) in each building of a size equal to or greater than 1000 sq m, the provision of real time information panels

60. No development shall take place except in accordance with a scheme for the sustainable transport of construction materials onto and off the site which has been submitted to and agreed in writing by the local planning authority.

61. Details of the preferred route to be used for construction traffic shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of each Reserved Matters approval, and notices shall be erected and maintained throughout the period of construction/development at the site exit, indicating to drivers the route approved by the Local Planning Authority for traffic leaving the site.

62. Prior to the commencement of development of any part of the application site, details of preferred lorry routes, which shall exclude the use of Corringham Road, Lampits Hill, Fobbing Road and Southend Road, access points to the application site and notification of preferred lorry routes to construction lorry drivers that shall be used by construction vehicles during construction shall be submitted to and approved in writing by the Local Planning Authority.

63. Details of on-site parking arrangements during the construction phase will be submitted to and approved in writing by the Local Planning Authority prior to the commencement of each part of the development for which Reserved Matters have been approved, together with details of the proposed management strategy of the developer to prevent any parking of contractors or other parties associated with the construction of the development within any residential areas within Stanford le Hope and Corringham. The Local Planning Authority shall approve the parking management strategy prior to the commencement of development of each Reserved Matters approval, and the strategy shall be implemented accordingly unless otherwise agreed in writing with the Local Planning Authority.

64. All roads, footpaths and verges together with pedestrian and vehicular visibility splays shall be laid out and constructed in accordance with the defined Development Parameters set out at Appendix A of the Architectural Design and Sustainability Guide (CD 640) and shall be constructed in accordance with the details submitted to and approved in writing by the Local Planning Authority pursuant to the relevant Reserved Matters approval.

65. The visibility splays referred to in condition 64 shall at all times be kept clear of any object, vegetation or any other obstructions to visibility in accordance with the height approved as part of the scheme pursuant to condition 64.

66. The access to any individual building plot connecting it to the main internal site roads shall be constructed with an impervious structural base course, together with all related highway drainage works from the main internal site road to the entrance to the building site prior to the commencement of engineering works upon the building site.

67. Before construction of the development hereby permitted, wheel cleansing facilities shall be provided on the site in close proximity to the highway in accordance with details which shall previously have been submitted to and approved in writing by the Local Planning Authority and shall be maintained and used at all times during the construction of the development hereby permitted.

68. As part of the submission of every Reserved Matters application for development on the site, the developer shall submit a Control of Pollution Act Notice under Section 61 for approval in writing by the Local Planning Authority, and the Reserved Matters approval to which it refers shall be carried out accordingly.

69. In respect of each Reserved Matters application and prior to the construction of the access road, a construction management strategy for the management of dust will be submitted to and agreed in writing with the Local Planning Authority to ensure that dust and material created as a result of the construction process do not adversely affect the amenity of those living and working in the area.

70. Prior to the occupation of any buildings permitted, a noise mitigation scheme shall be submitted to and approved in writing by the Local Planning Authority containing details of the construction and maintenance of acoustic barriers in accordance with the four drawings annexed at Annex 8 of APP/0/131 and in conformity with

Highways Agency Standard HA 66/95 "Environmental Barriers Technical Requirements" (or any standard which may supersede or replace it) and no development shall take place except in accordance with the approved scheme.

71. No more than 210,000 square metres of the gross floor space approved shall be occupied before the provision of the acoustic barriers in accordance with condition 70.

72. No plant, equipment or machinery other than as detailed in any Reserved Matters approval shall be installed on the walls or roof of any buildings or on any open part of the site without the prior written permission of the Local Planning Authority.

73. The development permitted hereto shall be carried out in compliance with the OPA Ecological Mitigation and Management Plan (EMMP) (CD 561 and CD 623) (which forms part of the application).

74. Detailed action plans setting out how the commitments in the EMMP will be implemented will be prepared by the Applicant and submitted to the Local Planning Authority with each relevant Reserved Matters approval, unless otherwise agreed in writing by the Local Planning Authority and the Reserved Matters will thereafter be implemented in accordance with the approved action plans.

75. Prior to the commencement of development an Ecological Advisory Group shall set up and run according to the attached constitution included in Annex 9 of APP/0/131.

76. Prior to the commencement of development on the application site a Construction Environmental Management Plan (CEMP) shall be submitted to and approved in writing by the Local Planning Authority. No works shall take place except in accordance with the approved CEMP.

77. Prior to the submission of the first Reserved Matters for approval, full details of a strategic landscape scheme, including details of the Variable Structural Landscape Zone within the area identified as zone 1A hatched red and the Fixed Landscape Zone identified as zone 1B hatched blue on drawing no A01156-205 (Annex 2 of APP/0/131) which shall comply with the principles set out in the landscape agreement and as repeated in the Architectural Design and Sustainability Guide (CD640 at pages 26 to 28) shall have been submitted to and approved in writing by the Local Planning Authority, and these works shall be carried out as approved in accordance with a phased landscape scheme which shall have been submitted to and approved by the Local Planning Authority (and which will provide for the implementation of the structural landscaping within the Variable Structural Landscape Zone prior to first occupation of any building in the 12 metre height zone shown on drawing no A01156-181 (Annex 1 of APP/0/131) or within 2 years of the commencement of the construction of the first commercial building to be constructed on the application site within the use classes B1, B2 or B8 of the Use Classes Order 1987 (or any equivalent class within an order revoking and re-enacting that Order with or without modification) whichever is the earlier.

78. A landscaping scheme for the Manorway shall be implemented in accordance with details previously submitted to and approved in writing by the Local Planning Authority in accordance with seven drawings annexed at Annex 10 of APP/0/131 at the same time as the acoustic barriers referred to in condition 71.

79. A landscape management plan including long-term objectives, management responsibilities and maintenance schedules for landscape areas included in the strategic landscape scheme referred to in condition 77 above shall be submitted to and approved in writing by the Local Planning Authority prior to the occupation of the development. The landscape management plan shall be carried out as approved.

80. No construction of an individual building under any Reserved Matters approval shall take place until full details of both hard and soft landscape works in respect of that particular plot have been submitted to and approved in writing by the Local Planning Authority. These details shall include existing and proposed ground levels, existing trees and shrubs to be retained, measures for their protection during works, planting species, planting phasing, ground surfacing, fencing, walls and other hard landscaping features.

81. All hard and soft landscape works shall be carried out in accordance with the approved details. The works shall be carried out prior to the occupation of any Reserved Matters plot or in accordance with the programme to be submitted to and approved in writing by the Local Planning Authority.

82. Any tree or shrub specified in a landscape scheme pursuant to conditions of this permission which may die, be removed or be seriously damaged shall be replaced in the first available planting season thereafter and during a period of five years from the first implementation of the approved landscaping scheme or relevant phase of the scheme, unless a variation to the landscaping scheme is agreed in writing by the Local Planning Authority.

83. No development of earthworks shall take place until details of a scheme for any earthworks have been submitted to and approved in writing by the Local Planning Authority. These details shall include the proposed grading and mounding of land including the levels and contours to be formed, showing the relationship of proposed mounding to existing vegetation and surrounding landform. Development shall be carried out in accordance with the approved details.

84. No imported materials shall be used as a growing medium or for any other purpose connected with landscaping on the site prior to a scheme for the chemical testing, treatment, handling and storage of imported materials has been submitted to and approved in writing by the Local Planning Authority. The use of imported materials will thereafter take place in accordance with the approved scheme.

85. Details of all means of external illumination to be provided within the site shall be included as part of each Reserved Matters submission in accordance with the details set out at Appendix A of the Architectural Design and Sustainability Guide (CD 640) and shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall contain details of the height and design of the lighting

columns and lanterns proposed. The installation of any external lighting shall be in accordance with the approved scheme.

86. No development other than development within Use Classes B1, B2 and B8 shall be permitted within the consultation distance, the extent of which is illustrated on the three plans attached at Annex 11 of APP/0/131.

87. No development other than buildings providing for less than 100 occupants and less than three occupied storeys shall be permitted within the inner zone, the extent of which is illustrated on the plan attached at Annex 12 of APP/0/131.

88. Within the area shaded pink on the plan at Annex 13 of APP/0/131, the use of buildings permitted will be restricted to Use Class B8, together with no more than 26,088 square metres (Gross External Area) of buildings in Use Class B2 and no more than 32,031 square metres (Gross External Area) of buildings in Use Class B1(b) or B1(c).

89. Prior to the commencement of development of each part of the development for which Reserved Matters have been approved a site-specific risk-based ground condition assessment of the nature of the subsoils shall be submitted to and approved in writing by the Local Planning Authority. If specific risks to human health or groundwater are identified, then the developer shall submit in writing a scheme designed to deal with potential unremediated contamination within the subject plot, including details of proposed decontamination units and methods of remediating contaminated spoil discovered during construction works, for approval in writing by the Local Planning Authority. Thereafter, all on-site works shall be carried out in accordance with the approved remediation strategy.

90. Prior to the commencement of development of each part of the development for which Reserved Matters have been approved a scheme for the stripping and storage of topsoil and subsoil shall have been submitted to and approved in writing by the Local Planning Authority. The details of the scheme shall include details of the methods to be used to chemically test (and if necessary remediate) the soils together with the methods for their removal, storage, protection and reuse. Thereafter, the stripping and storage of topsoil and subsoil shall be undertaken in accordance with the approved scheme.

91. No development (including groundworks) in relation to any part of the development for which Reserved Matters have been approved shall take place until the developer has secured the implementation of a programme of archaeological work for that site (including any work that might be necessary and practical to preserve remains in situ) in accordance with the Archaeological Mitigation Framework which forms part of the application.

92. Prior to the commencement of development of each part of the development for which Reserved Matters have been approved a detailed design and method statement (including existing and proposed ground levels, layout and depth of all foundations, service trenches, drains, landscaping, ground works, and any revisions of such) for archaeological assessment shall be submitted to and

approved in writing by the Local Planning Authority. Development shall take place in accordance with the approved scheme.

ADDITIONAL CONDITIONS IMPOSED BY THE SECRETARY OF STATE FOLLOWING THE ISSUING OF THE MINDED LETTERS

OPA only development

93. None of the B1(b), B1(c), B2 or B8 uses forming part of the development hereby permitted shall be brought into beneficial use until the following works have been practically completed:

i the provision of MOVA or such other equipment providing the same functionality as MOVA equipment to the traffic signals on junction 30 of the M25 together with associated detection and ancillary equipment and road markings; and

ii the provision of either:

(a) a dedicated free flow left slip from the M25 (North) to the A13 (East); or

(b) improvements to the signalisation of the left-turn facility from the M25 (North) to the A13 (East); and

iii improvements to the 3-lane section of the A13 East (westbound) approach on Junction 30 of the M25; and

iv the provision of a 25 metre (approx) flare on the A282 approach; and

v re-marking of the existing A13 West (eastbound) 2-lane approach; and

vi further improvements to the MOVA equipment to accommodate the works referred to in paragraphs 1.2 to 1.5 above; and

vii revised signage and road markings for the A13 link section (M25 Junction 30 to the A126) and associated approaches.

94. No more than 625,000 square metres of floor space of classes B1(b), B1(c) B2 or B8 forming part of the development hereby permitted shall be brought into beneficial use until the following highway works have been substantially completed.

i 3-lane parallel collector distributor roads either side of the A13, and associated 2-lane slips, taking traffic to and from the A126 via M25 J30; and

ii MOVA signal control (already implemented as part of the interim measures, but extended to cover new improvement elements); and

iii Improvement for traffic from the M25 north to the A13 east at Junction 30 in the form of a left-turn slip road; and

iv Provision of a two-lane signalised left-turn facility from A13 east to the A282 south; and

v Widening of the circulatory carriageways at Junction 30 on the northern (overbridge), southern (overbridge) and western (underbridge) sections from three to four lanes; and

vi Provision of an additional 2 lanes on the A282 south approach to Junction 30; and

vii Additional flaring on the A13 west approach to Junction 30

in each case as outlined on the Faber Maunsell drawing number W37204_A_8236 together with the implementation of VMS (or an agreed alternative) on the A1012-A1089 section and associated approaches

Supplementary Travel Plan

95. No part of the development hereby permitted shall be brought into beneficial use until the measures in the Travel Plan (APP/0/104 and APP/0/103 as amended and updated by the Supplementary Travel Plan dated October 2006) have been approved by the Local Planning Authority in consultation with the Local Highway Authority and Highways Agency on behalf of the Secretary of State.

Conditions relating to the OPA in the event that both the OPA and HEO are implemented

96. No more than the total amount of B1(b), B1(c), B2 or B8 floorspace set out in the Table below (having regard to the amount of development at the adjacent port permitted by the London Gateway Port Harbour Empowerment Order (to be made) shown in the adjacent column in the Table) shall be brought into beneficial use until the following highway works have been practically completed (meaning complete such that they are operational but excepting minor snagging items). This condition shall not apply in the event that an election is made under a section 278 Agreement entered into with the Secretary of State for Transport that the Works set out below are not to be carried out:

The Works:

i 3-lane parallel collector distributor roads either side of the A13, and associated 2-lane slips, taking traffic to and from the A126 via M25 J30; and

ii MOVA signal control (already implemented as part of the interim measures, but extended to cover new improvement elements); and

iii Improvement for traffic from the M25 north to the A13 east at Junction 30 in the form of a left-turn slip road; and

iv Provision of a two-lane signalised left-turn facility from A13 east to the A282 south; and

v Widening of the circulatory carriageways at Junction 30 on the northern (overbridge), southern (overbridge) and western (underbridge) sections from three to four lanes; and

vi Provision of an additional 2 lanes on the A282 south approach to Junction 30; and

vii Additional flaring on the A13 west approach to Junction 30

in each case as outlined on the Faber Maunsell drawing number W37204_A_8236 together with the implementation of VMS (or an agreed alternative) on the A1012-A1089 section and associated approaches

The Table:

Column 1 Development at the Port in beneficial use (number of berths)	**Column 2 Maximum amount of permitted B1(b), B1(c), B2 or B8 floorspace in beneficial use**
1 berth	503,044 square metres with the Ro-Ro (or 579,912 square metres without the Ro-Ro)
2 berths	456,812 square metres with the Ro-Ro (or 533,680 square metres without the Ro-Ro)
3 berths	410,580 square metres with the Ro-Ro (or 487,448 square metres without the Ro-Ro)
4 berths	364,348 square metres with the Ro-Ro (or 441,216 square metres without the Ro-Ro)
5 berths	318,116 square metres with the Ro-Ro (or 394,984 square metres without the Ro-Ro)
6 berths	271,884 square metres with the Ro-Ro (or 348,752 square metres without the Ro-Ro)