Intended for
InterGen

Document Type
Report

Date
25 February 2016

GATEWAY ENERGY CENTRE

NON-TECHNICAL SUMMARY OF THE ENVIRONMENTAL STATEMENT FURTHER INFORMATION DOCUMENT

Revision History

Revision	Date	Purpose / Status	Document Ref.	Comments
1	25/02/2016	FINAL	555753-7	

Prepared By	Reviewed By	Approved By
		
Emily Agus	**Stephen Loyd**	**Stephen Loyd**
Senior Development and Environmental Engineer	Principal Consultant	Principal Consultant

Ramboll Energy
Rotterdam House
116 Quayside
Newcastle upon Tyne
NE1 3DY
United Kingdom

CONTENTS

LIST OF ABBREVIATIONS

ACC	Air Cooled Condenser
BAT	Best Available Technique
CCGT	Combined Cycle Gas Turbine
CEMP	Construction Environmental Management Plan
CCR	Carbon Capture Ready
CCS	Carbon Capture and Storage
CO_2	carbon dioxide
DCS	Distributed Control System
DECC	Department of Energy and Climate Change
DEMP	Decommissioning Environmental Management Plan
DFO	Distillate Fuel Oil
DLN	Dry Low NO_x
EIA	Environmental Impact Assessment
ES	Environmental Statement
ES FID	Environmental Statement Further Information Document
GE	General Electric
GEC	Gateway Energy Centre
GECL	Gateway Energy Centre Limited
ha	hectares
HRSG	Heat Recovery Steam Generator
HSCs	Hazardous Substances Consents
LHV	Lower Heating Value
MHI	Mitsubishi Heavy Industry
MW	megawatts
NO_x	oxides of nitrogen
OCGT	Open Cycle Gas Turbine
OS	Ordnance Survey
SO_2	sulphur dioxide

1 INTRODUCTION

1.1 Overview

1.1.1 In February 2010, Gateway Energy Centre Limited (GECL) submitted an application for Consent under Section 36 of the Electricity Act 1989 (the Original Consent Application) to the Secretary of State for Energy and Climate Change (the Secretary of State) via the Department of Energy and Climate Change (DECC) to construct a 900 megawatt (MW) Combined Cycle Gas Turbine (CCGT) generating station to be known as Gateway Energy Centre (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.

1.1.2 Amongst other documents / studies, the Original Consent Application was accompanied by an Environmental Statement (ES) (the February 2010 ES).

1.1.3 Following submission of the Original Consent Application, consultation responses were received and meetings were held with key consultees from which clarifications were sought and supplementary information requested. In December 2010, GECL submitted the clarifications and supplementary information to DECC.

1.1.4 Amongst other documents / studies, the clarifications and supplementary information included an Environmental Statement Further Information Document (ES FID) (the December 2010 ES FID).

1.1.5 On 4 August 2011, Consent under Section 36 of the Electricity Act 1989 was granted and a direction that planning permission be deemed to be granted under Section 90 of the Town and Country Planning Act 1990 was made (together, the Original Consent).

1.1.6 In August 2014, GECL submitted an application for the Original Consent to be varied under Section 36C of the Electricity Act 1989 to the Secretary of State via DECC so as to allow an increase in the permitted generation capacity of GEC from about 900 MW[1] to up to 1250 MW (the Variation Application). The increase in permitted generation capacity would enable the use of the latest turbine technologies, including the Alston GT26 (Amended), General Electric (GE) Flex 50, Mitsubishi Heavy Industries (MHI) 701 F5 and the Siemens SGT5-8000H machines. In addition, a direction that planning permission be deemed to be granted under Section 90(2ZA) of the Town and Country Planning Act 1990 was also sought.

1.1.7 Amongst other documents / studies, the Variation Application was accompanied by an ES FID (the August 2014 ES FID).

1.1.8 On 18 November 2014, the Original Consent was varied and a direction that the conditions subject to which the existing planning permission deemed to be granted under Section 90(2ZA) of the Town and Country Planning Act 1990 be varied was made (together, the Varied Consent).

1.2 Purpose of this Document

1.2.1 This document is a Non-Technical Summary of an Environmental Statement Further Information Document (the February 2016 ES FID), which accompanies a further application by GECL to the Secretary of State for the Varied Consent to be varied (the Further Variation Application). If the Varied Consent is varied as per the Further Variation Application, the Proposed Development[2] will comprise a generating station up to 1250 MW, either:

- Scenario 1: Up to two CCGT units; or,

[1] As per the Original Consent, a tolerance of up to 5 per cent is permitted.
[2] The Proposed Development comprises the generating station which GECL would be authorised to construct under the Varied Consent if this is varied as requested in the Further Variation Application.

- Scenario 2: Once CCGT unit, and one or more Open Cycle Gas Turbine (OCGT) units with a combined rated electrical output of less than 300 MW.

1.2.2 In addition, if the Varied Consent is varied as per the Further Variation Application, the commencement deadline for the Consent will be 5 years from the date of granting the variation. Similarly, the commencement deadline for the planning permission deemed to be granted will be 5 years from the date of granting the variation.

1.2.3 To accompany the Further Variation Application, GECL is providing the following information to DECC:

- The February 2016 ES FID, which includes (amongst other items):
  - The rationale for proposing that the Varied Consent is varied;
  - Updated environmental baseline information;
  - An assessment of whether the likely significant effects on the environment of the Proposed Development differ from those reported in the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID; and,
    - Where there is potential for the likely significant effects to differ, an updated impact assessment followed by a description of the main respects in which GECL consider that the likely significant effect of the Proposed Development would differ from those reported in the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID; or,
    - Where there is no potential for the likely significant effects to differ, an explanation and / or supporting information.

1.2.4 Used in combination, the information in the February 2010 ES, the December 2010 ES FID, the August 2014 ES FID and this February 2016 ES FID provides the results of a comprehensive and independent assessment of the likely significant effects on the environment, as described in Schedule 4 of the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 (the Environmental Impact Assessment (EIA) Regulations) as modified by the Electricity Generating Stations (Variation of Consents) (England and Wales) Regulations 2013 (the Variation Regulations), of the Proposed Development.

2 THE PROPOSED DEVELOPMENT

2.1 Gateway Energy Centre

2.1.1 If the Varied Consent is varied as per the Further Variation Application, the Proposed Development will comprise a generating station up to 1250 MW, either:

- Scenario 1: Up to two CCGT units; or,
- Scenario 2: One CCGT unit, and one or more OCGT units with a combined rated electrical output of less than 300 MW.

2.1.2 The Proposed Development will include for the provision of up to 150 MW to the DP World® London Gateway® Port and London Gateway® Logistics Park, which is expected to meet its long-term electricity requirements.

2.1.3 The Proposed Development will be capable of operating continuously throughout the year for up to 35 years.

2.1.4 The overall redline boundary covers a total area of approximately 29.1 hectares (ha) (71.9 acres). This includes:

- The GEC site, which has a total area of approximately 11.3 ha (28.0 acres) and includes the land to be set aside for the purposes of Carbon Capture Readiness (CCR) (the Carbon Capture and Storage (CCS) space); and,
- Land to the north and west which is intended to be used for temporary laydown and storage of plant / equipment during construction.

2.1.5 The Proposed Development will be located within the GEC site (see FIGURE 63114-PBP-0025 associated with the Varied Consent). The requirement for the Proposed Development to be located within the GEC site is provided by Condition 5(2) of the Varied Consent.

2.1.6 The GEC site is located on land within the London Gateway® Logistics Park.

2.1.7 The GEC site is located on the north bank of the Thames Estuary, approximately 6 km east of the A13. The A1014 dual carriageway (The Manorway) lies approximately 0.5 km to the north of the site and runs east to west to provide a link with the A13, which in turn connects with the M25 at Junction 30. The Ordnance Survey (OS) Grid Reference of the centre of the GEC site is approximately 573209, 182165.

2.1.8 The nearest residential settlements are at Corringham and Fobbing approximately 4 km to the west, Canvey Island approximately 5 km to the east and Basildon approximately 7 km to the north.

2.1.9 To the east of the GEC site lies the Shell Aviation Fuel Tank Farm (100 m), existing Coryton CCGT power plant (700 m east), and the Thames OilPort / former Petroplus Coryton Oil Refinery (950 m east). The former Petroplus Coryton Oil Refinery ceased production in June 2012. The site was sold and is to be turned into a distribution terminal known as Thames OilPort. The Thames OilPort is expected to open in Spring 2016. Following a search for applications on the Thurrock Borough Council website[3], extensions are being sought to existing Hazardous Substances Consents (HSCs) for the site and demolition works on redundant refinery process units are taking place on the site (expected to be completed by Spring 2017). These refinery process units are no longer needed, and it is intended that, following the works, the land (known as the Thames Enterprise Park) would be sold for development. The sale is also expected in Spring 2016.

[3] Available on: https://www.thurrock.gov.uk/search-planning-application-records/planning-records-online

2.2 Construction

Provision of Temporary Construction Facilities

2.2.1 Throughout the main construction works, a dedicated temporary laydown and storage area will be provided for construction plant / equipment. This area will either be the land to the north and west or the land to be set aside for the purposes of CCR. The laydown / storage area will be available for any fabrication which may be necessary for construction, and will include space for temporary car parking and office accommodation.

2.2.1 The temporary laydown and storage area will be covered with a suitable material and, following construction, all necessary measures will be taken to return the area to its previous state as appropriate.

Site Preparation

2.2.2 In advance of any construction works, a program of clearance, remediation and levelling is being undertaken across the GEC site. Remediation Validation Reports will be produced as documentation of the works undertaken.

2.2.3 Following the remediation works, studies examining soil properties will be undertaken by the Construction Contractor, building on the results of site investigations carried out for GEC, and the surrounding the DP World® London Gateway® Port and London Gateway® Logistics Park. In addition, as the potential exists for possible off-site contamination to migrate onto the GEC site during construction, the Construction Contractor will conduct a Contaminated Soil Survey and maintain a close watch for possible contamination appearing during construction.

2.2.4 Following the program of remediation and studies / surveys, site preparation work may comprise the raising of the GEC site (further than any levelling / raising undertaken for the surrounding the DP World® London Gateway® Port and London Gateway® Logistics Park), earthworks, and the excavations for foundations. Trenching, installation of underground services and provision of the temporary laydown / storage area and services will then take place.

2.2.5 Furthermore, it is likely that piling will be required for the majority of the heavy equipment items including, but not limited to: the gas turbines; the HRSGs; the steam turbines; and the generators. This is due to their high static or, for rotating plant, dynamic loading, and the tight tolerance requirements for settlement. This will be undertaken during the site preparation works.

Equipment / Building Construction Works

2.2.6 The equipment / building construction works can be considered in terms of the following activities:

- Equipment / building manufacturing and delivery; and,
- Equipment / building erection.

2.2.7 During the equipment / building construction works, factory finish painted building steelwork columns frames and roof trusses will be delivered and erected on to cured foundations. Cladding and insulation will be fixed, and the buildings will be made weather tight.

2.2.8 Internal walls will be erected where buildings are divided. The buildings will then be fitted with electrical systems, plumbing and drainage.

2.2.9 The main pieces of equipment will then be delivered to site, and placed in the completed buildings on their dedicated foundations. Auxiliary equipment, interconnections and acoustic panels will be fitted.

Commissioning / Handover

2.2.10 The commissioning / handover works can be considered in terms of the following activities:

- Plant / equipment commissioning;
- Generating station take-over;
- Generating station commercial operation; and,
- Guarantee period.

2.2.11 Commissioning will be progressive from final plant / equipment / building erection checks, to pre-commissioning and setting to work of individual component parts, through to the overall equipment / building testing. This commissioning will prove the technical acceptance of the plant / equipment and buildings.

2.2.12 Reliability tests will assess the fitness for purpose of the generating station prior to commercial operation. Performance tests will assess that GEC complies with the performance guarantees. Availability and reliability will also be assessed by operating GEC under commercial conditions for a period without major repair to any item of plant or equipment.

Construction Employment

2.2.13 The construction workforce will peak at about 600 personnel.

Environmental Management during Construction

Construction Environmental Management Plan

2.2.14 The Construction Contractor will be required to prepare and implement a Construction Environmental Management Plan (CEMP). The purpose of the CEMP is to:

- Provide a mechanism for ensuring compliance with environmental legislation and statutory consents;
- Ensure that best practices are adopted, where appropriate, and maintained throughout construction;
- Provide a mechanism for ensuring that mitigation and monitoring measures to prevent, reduce and, where possible, offset the identified likely significant adverse effects on the environment are implemented;
- Provide a framework for mitigating unexpected impacts during construction;
- Provide assurance to third parties that their requirements with respect to environmental conditions and performance will be met; and,
- Provide a framework against which to monitor and audit environmental performance.

2.2.15 Accordingly, the CEMP to be prepared and implemented for GEC will ensure construction work is completed in accordance with:

- The Conditions of the Consent for GEC;
- GECL's contractual requirements;
- Any environmental or other codes of conduct required by GECL;
- Current best practice; and,
- Relevant GEC-specific mitigation measures.

2.2.16 The requirement to prepare, agree and implement a CEMP is provided by Condition 5(25) of the Varied Consent.

Construction Hours

2.2.17 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 outside these hours or on any Sunday or Bank Holidays will be undertaken, unless such work is associated with an emergency, is carried out with the

prior written approval of the Thurrock Borough Council or does not cause existing ambient background noise levels to be exceeded.

2.2.18 The requirement to adhere to these construction hours is provided by Condition 5(26) of the Varied Consent.

2.3 Operation

2.3.1 Under both Scenario 1 and Scenario 2, GEC will burn natural gas only, which is an inherently clean fuel. Indeed, it does not produce the sulphur dioxide (SO_2) or particulate matter emissions associated with burning coal. As a result, all atmospheric emissions from GEC will be controlled at the source and no flue gas cleaning equipment is required. Back-up firing on Distillate Fuel Oil (DFO), or any other oil, is not proposed.

CCGT Units

2.3.2 Under Scenario 1, there will be up to two CCGT units. Under Scenario 2, there will be one CCGT unit.

2.3.3 Each CCGT unit will include a gas turbine, a Heat Recovery Steam Generator (HRSG), steam turbine plant and associated equipment. The natural gas will be burnt in the combustion chamber of the gas turbine from which hot gases will expand through the turbine section to generate electricity. The hot exhaust gases still contain recoverable energy and will therefore be used in a HRSG to generate steam, which in turn is used to generate electricity via steam turbine equipment.

2.3.4 The gas turbines to be selected for installation at GEC will be equipped with proven pollution control technology, which will limit the production of oxides of nitrogen (NO_x) to a maximum of 50 mg/Nm^3 (at reference conditions, when the gas turbines are not in start-up or shutdown operation[4]). The proven pollution control technology, known as Dry Low-NO_x (DLN) Combustion, represents the Best Available Technique (BAT) for limiting emissions of NO_x to the atmosphere from gas turbine-based CCGT generating stations. In addition, modern gas firing controls will be used, enabling combustion to be optimised for all operating conditions.

2.3.5 The steam exhausting the steam turbine equipment will pass to an Air Cooled Condenser (ACC) where it will be condensed. The resultant condensate will be returned to the HRSGs to continue the steam cycle. The use of ACCs has the potential to reduce potential impacts on the environment associated with other cooling systems, and is considered to have the following benefits:

- No visible cooling tower plumes;
- Significantly lower water consumption; and,
- No surface water abstraction or discharge of heated cooling water to watercourses.

2.3.6 The flue gases will be discharged via a dedicated stack.

2.3.7 The use of a combined gas and steam cycle increases the overall fuel efficiency of the generating station. As such, the CCGT unit(s) will be capable of generation in combined cycle mode with an overall electrical generation efficiency between approximately 55 to 60 per cent based on the Lower Heating Value (LHV) of the fuel.

OCGT Units

2.3.8 Under Scenario 2, the OCGT unit(s) will have a combined rated electrical output of less than 300 MW. As there is a range of possible configurations for OCGT unit(s), two

[4] In order to ensure appropriate regulation of the operation of large combustion plants (as is proposed for GEC), the EU Commission Implementing Decision 2012/249/EU concerning the determination of start-up and shut-down periods for the purposes of the IED (May 2012, the Decision) provides rules for such determinations that are required to be: transparent and externally verifiable; and based on conditions allowing stable generation (safeguarding health and safety).

alternative options have been developed for the purpose of the February 2016 ES FID. These options comprise:

- Option 1: One OCGT unit with a rated electrical output of less than 300 MW; or
- Option 2: Five OCGT units with a combined rated electrical output of less than 300 MW.

2.3.9 The following process description applies to both Option 1 and Option 2.

2.3.10 In essence, an OCGT unit comprises the prime driver of a CCGT unit, which is the gas turbine. As with a CCGT unit, the natural gas will be burnt in the combustion chamber of the gas turbine from where the hot gases will expand through the gas turbine to generate electricity.

2.3.11 As there is no steam cycle, there is no condensing of steam which has an associated cooling requirement. Furthermore, whilst auxiliary cooling is still required, this requirement is significantly lower than for that for a CCGT unit.

2.3.12 The hot exhaust gases are routed directly to a dedicated stack. The stack normally contains a silencer to reduce noise emissions. Due to the higher stack exit temperature, the stacks of OCGT units are generally shorter than those of CCGT units.

2.3.13 The OCGT units will have an electrical generation efficiency between approximately 33 to 43 per cent based on the LHV of the fuel.

Comparison of CCGT and OCGT Units

2.3.14 Table 2.1 provides a high-level comparison of a number of the key differences between CCGT and OCGT units.

TABLE 2.1: COMPARISON BETWEEN CCGT AND OCGT UNITS

Parameter	***CCGT***	***OCGT***
Efficiency	Between approximately 55 to 60 per cent	Between approximately 33 to 43 per cent
Start Up Time	Between 30 to 180 minutes	Between 20 to 30 minutes
Cooling	Required for steam condensing and auxiliaries (larger requirement)	Required for auxiliaries only (smaller requirement)
Stack Height	Typically larger, on the proposed GEC will be up to 75 m	Typically smaller.

2.3.15 The inclusion of both Scenarios provides the flexibility for the development of the most appropriate technology for the market.

Performance

2.3.16 It is expected that for the majority of its life, GEC will operate in various running modes including (but not limited to) baseload (maximum continuous rating) and cycling.

2.3.17 GEC will occasionally be shut down for periods of essential maintenance and statutory inspections. Minor outages (of the order of 4 days) are expected to occur every year. Major outages (of the order of 4 weeks) are expected to occur every three to four years, and will be planned on a long-term basis.

2.3.18 Based on operational details from the existing Coryton CCGT generating station, it is likely that in a non-major outage year GEC will have an annual average availability of the order of 96 per cent based on the expected scheduled maintenance regime but not including any forced outage periods.

2.3.19 Performance of the generating station will be continuously recorded to ensure correct and efficient operation of GEC. Any significant deviations will be alarmed and corrections carried out on occurrence. Records will be maintained of performance and deviation.

2.3.20 GEC will be designed with a view to a high degree of automatic operation. However, operator intervention will be necessary from time to time. Full facilities for interfacing information and control and alarm systems will be installed so that GEC can be operated from the Central Control Room via the Distributed Control System (DCS).

Design and Layout / Power Plant Dimensions

2.3.21 GECL has appointed Siemens as the preferred technology / maintenance provider for the Proposed Development. Siemens has undertaken preliminary engineering studies and has developed preliminary designs and layouts. These preliminary designs and layouts have formed the basis for assessment in the February 2016 ES FID.

2.3.22 The design of equipment / buildings / enclosures will minimise regular and long-term maintenance requirements. Materials and finishes will be selected to meet this objective and to ensure that the appearance of GEC does not deteriorate materially over its operating lifetime (approximately 35 years). Materials and finishes will be similar to those used on modern generating stations, and will be selected to be sympathetic the appearance of the surrounding DP World® London Gateway® Port and London Gateway® Logistics Park. This is discussed further in the Design and Access Statement (February 2010) / Revised Design and Access Statement (December 2010). The requirement to adhere to the principles of the Revised Design and Access Statement is provided by Condition 5(25) of the Varied Consent.

2.3.23 The GEC site will be surrounded by security fencing. Access to the GEC site will be strictly controlled. Security of the GEC site will be achieved by providing suitable fencing to the site perimeter and the use of security cameras.

Operational Employment

2.3.24 The direct operational workforce would be of the order of 15 to 25 personnel if operated in conjunction with the existing Coryton CCGT generating station, or up to 40 personnel if GEC is operated on a stand-alone basis. Furthermore, experience at the existing Coryton CCGT generating station suggests there could be of the order of 10 to 15 additional indirect jobs at the site. There will also be additional indirect jobs for contracted engineering staff during maintenance shutdowns.

Environmental / Safety Management during Operation

2.3.25 During operation, activities on the proposed GEC site will be undertaken in accordance with an Environmental Permit issued under the Environmental Permitting (England and Wales) Regulations 2010 (as amended).

2.3.26 In terms of safety, the hazards associated with gas-fired generating stations have been studied over many years and a considerable amount of design and procedural experience has been built up in this area. Accordingly, the design of the Proposed Development will incorporate all the features needed to comply with relevant safety regulations. The HSE will also be consulted with regard to health and safety issues associated with GEC.

2.4 Decommissioning

2.4.1 GEC will be capable of operating continuously throughout the year for up to 35 years. At the end of its useful life, GEC will be decommissioned in accordance with legislative guidelines current at that time. For both Scenario 1 and Scenario 2, decommissioning is likely to take place over several months.

2.4.2 Alternatively, if market conditions and / or electricity supply constraints at that time indicate that it would be appropriate to extend the life of GEC, then decommissioning may be deferred to a later date. In order to ensure continuing adequate plant / equipment conditions and environmental performance, GEC would be re-engineered and re-permitted as required, in accordance with the legislative requirements and guidelines at that time.

Environmental Management during Decommissioning

Decommissioning Environmental Management Plan

2.4.3 Similar to construction, the Decommissioning Contractor will be required to prepare and implement a Decommissioning Environmental Management Plan (DEMP). The requirement to prepare, agree and implement a DEMP is provided by Condition 5(56) and Condition 5(57) of the Varied Consent.

Environmental Permit

2.4.4 Decommissioning will be in accordance with the requirements of the Environmental Permit for GEC under the Environmental Permitting (England and Wales) Regulations 2010 (as amended).

3 RELATIONSHIP BETWEEN THE FEBRUARY 2010 ES, THE DECEMBER 2010 ES FID, THE AUGUST 2014 ES FID AND THE FEBRUARY 2016 ES FID

3.1.1 Table 3.1 identifies the information provided in the February 2016 ES FID, and its relationship with the information provided in the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID.

3.1.2 References to N / A (not applicable) signify that there are no changes to that Section.

TABLE 3.1: RELATIONSHIP BETWEEN THE FEBRUARY 2010 ES, DECEMBER 2010 ES FID, AUGUST 2014 ES FID AND THE FEBRUARY 2016 ES FID

The February 2010 ES	*The December 2010 ES FID*	*The August 2014 ES FID*	*The February 2016 ES FID*
Section 1 – Introduction	N / A	This Section was updated to provide a Consenting History of GEC, the underground gas pipeline and associated Above Ground Installation (AGI), and the High Voltage (HV) underground electrical connection and associated extension of the existing Coryton Substation. The relevant environmental documentation / studies was also described. This Section also referred to the statutory provisions for a Variation Application under Section 36C of the Electricity Act 1989, including the requirements under the Variation Regulations.	This Section has been updated to provide the Consenting History of GEC. Again, this Section also refers to the statutory provisions for a Variation Application under Section 36C of the Electricity Act 1989, including the requirements under the Variation Regulations.
Section 2 – Rationale for Development	N / A	This Section was updated to reflect changes in national policy on the need for new energy infrastructure included in the National Policy Statements approved by Parliament in July 2011. This Section also provided the rationale for proposing that the Original Consent was varied.	This Section has been updated to provide the rationale for proposing that the Varied Consent is further varied.
Section 3 – Policy Context	This Section was updated to reflect the changes in energy and planning policy between February 2010 and December 2010.	This Section was updated to reflect the changes in energy and planning policy between December 2010 and August 2014. This included discussion on the National Policy Statements (as approved by Parliament in July 2011), the National Planning Policy Framework (March 2012) and the approved Local Development Plan policies (December 2011).	This Section has been updated to reflect the changes in energy and planning policy between August 2014 and February 2016.

The February 2010 ES	*The December 2010 ES FID*	*The August 2014 ES FID*	*The February 2016 ES FID*
Section 4 – Description of GEC	This Section was updated to note that the Construction Environmental Management Plan (CEMP) will be submitted for approval to Thurrock Borough Council (TBC), not Thurrock Thames Gateway Development Corporation (TTGDC), prior to commencement of construction works.	This Section was updated to provide a description of GEC (i.e. the Proposed Development) which GECL would be authorised to construct under the Varied Consent.	Similar to the August 2014 ES FID, this Section has been updated to provide a description of GEC (i.e. the Proposed Development) which GECL would be authorised to construct if the Varied Consent is varied as per the Further Variation Application.
Section 5 – Description of the GEC Site and its Surroundings	This Section was updated to provide information on the proposed Tilbury C CCGT generating station. However, this Section noted that 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* [CCGT generating station] *is not considered further*".	This Section was updated to provide information on the clearance, remediation and levelling works at the DP World® London Gateway® Port and London Gateway® Logistics Park.	Whilst clearance (including vegetation control and on-going management of ecology in select areas), remediation, levelling and construction works are on-going at the DP World® London Gateway® Port and London Gateway® Logistics Park, no material changes are required to Section 5 of the August 2014 ES FID.
Section 6 – Alternatives	This Section was updated to provide information on the proposals for the underground gas pipeline and associated AGI / HV underground electrical connection based on the information available at the time.	This Section was updated to provide information on the applications and planning permissions for the underground gas pipeline and associated AGI / HV underground electrical connection and associated extension of the existing Coryton Substation.	This Section has been updated to provide information on the alternative technologies for electricity generation considered by GECL.
Section 7 – Environmental Impact Assessment Methodology and Environmental Statement Content	N / A	This Section was updated to provide details on the EIA methodology and ES content for the August 2014 ES FID based on the EIA Regulations, as modified by the Variation Regulations.	This Section has been updated to provide details on the EIA methodology and ES content for this February 2016 ES FID based on the EIA Regulations, as modified by the Variation Regulations.

The February 2010 ES	*The December 2010 ES FID*	*The August 2014 ES FID*	*The February 2016 ES FID*
Section 8 – Stakeholder Consultations and Additional Studies	This Section provided a description of the written responses in relation to the Original Consent Application. This Section also detailed the subsequent actions taken and, where necessary, linked to additional information and / or updated impact assessments.	This Section provided a summary of the pre-application consultation and responses in relation to the Variation Application. This Section also detailed the subsequent actions taken and, where necessary, linked to additional information and / or updated impact assessments. This Section also provided summary information on the Updated CCR Feasibility Study.	This Section has been updated to provide a summary of the pre-application consultation and responses in relation to the Further Variation Application. This Section also details the subsequent actions taken and, where necessary, links to additional information and / or updated impact assessments. This Section also provides summary information on the requirement for the Proposed Development to be CCR and CHP-Ready, and the need for an Updated CCR Feasibility Study and Updated CHP Assessment respectively.
Section 9 – Air Quality	This Section considered the potential impacts of emissions of carbon dioxide (CO_2) from GEC on Thurrock's carbon footprint.	This Section provided updated environmental baseline information and considered the potential impacts of GEC on air quality, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. An updated impact assessment was provided for Scenario 1.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential impacts of GEC on air quality, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required for Scenario 1. However, an updated impact assessment has been provided for Scenario 2.

The February 2010 ES	*The December 2010 ES FID*	*The August 2014 ES FID*	*The February 2016 ES FID*
Section 10 – Noise and Vibration	N / A	This Section provided updated environmental baseline information and considered the potential noise and vibration impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. An updated impact assessment was provided for Scenario 1.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential noise and vibration impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required for Scenario 1. However, an updated impact assessment has been provided for Scenario 2.
Section 11 – Landscape and Visual	This Section provided an update to the landscape and visual impact assessment (LVIA) presented in the February 2010 ES, including additional photomontages with the DP World® London Gateway® Port / London Gateway® Logistics Park, and a supplementary LVIA to include additional receptors.	This Section provided updated environmental baseline information and considered the potential landscape and visual impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment was required.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential landscape and visual impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required.
Section 12 – Ecology	This Section provided clarification on the likely significant effects on Sites of Special Scientific Importance (SSSIs) relating to emissions to air from GEC.	This Section provided updated environmental baseline information and considered the potential impacts of GEC on ecology, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. Supporting updated impact assessment was provided in Section 9 (Air Quality) and Section 10 (Noise and Vibration) for Scenario 1.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential impacts of GEC on ecology, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required for Scenario 1. However, supporting updated impact assessment is provided in Section 9 (Air Quality) and Section 10 (Noise and Vibration) for Scenario 2.

The February 2010 ES	*The December 2010 ES FID*	*The August 2014 ES FID*	*The February 2016 ES FID*
Section 13 – Water Quality	This Section provided an update of the mitigation and monitoring measures to take account of the flood risks associated with the site.	This Section provided updated environmental baseline information and considered the potential impacts of GEC on water quality, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously. No updated impact assessment was required.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential impacts of GEC on water quality, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required.
Section 14 – Geology, Hydrology and Land Contamination	This Section provided an update of the clearance, remediation and levelling works at the DP World® London Gateway® Port and London Gateway® Logistics Park, and also an update of the mitigation and monitoring measures to take account of the Site Waste Management Plan (SWMP).	This Section provided updated environmental baseline information and considered the potential impacts of GEC on geology, hydrology and land contamination, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment was required.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential impacts of GEC on geology, hydrology and land contamination, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required.
Section 15 – Traffic and Transport Infrastructure	This Section provided a summary of the peak construction traffic impact assessment (agreed with the Highways Agency (now Highways England) and Thurrock Borough Council (Highways) to represent the 'worst case'). The Transport Report provided the detailed impact assessment.	This Section provided updated environmental baseline information and considered the potential impacts of GEC on traffic and transport infrastructure, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment was required.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential impacts of GEC on traffic and transport infrastructure, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. Supporting information is provided in the Transport Report Addendum (see Appendix B).

The February 2010 ES	*The December 2010 ES FID*	*The August 2014 ES FID*	*The February 2016 ES FID*
Section 16 – Cultural Heritage	This Section provided a summary of additional environmental baseline information referenced in reports produced by the Oxford Archaeology Unit (OAU) for the DP World® London Gateway® Port and London Gateway® Logistics Park.	This Section provided updated environmental baseline information and considered the potential impacts of GEC on cultural heritage, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment was required.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential impacts of GEC on cultural heritage, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required.
Section 17 – Socio-Economics	This Section provided a summary of additional socio-economics benefits associated with the Proposed Development.	This Section provided updated environmental baseline information and considered the potential socio-economic impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment was required.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential socio-economics impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required.
Section 18 – Summary of Mitigation and Monitoring	N / A	This Section was updated to provide a Consolidated Summary of Mitigation and Monitoring, which incorporated the conclusions of the February 2010 ES, the December 2010 ES FID and any updated impact assessment and included reference (wherever relevant) to the Conditions associated within the Original Consent.	Based on the likely significant effects on the environment previously reported and the updated impact assessments, no changes are required to Section 18 (Consolidated Summary of Mitigation and Monitoring) of the August 2014 ES FID.

The February 2010 ES	*The December 2010 ES FID*	*The August 2014 ES FID*	*The February 2016 ES FID*
Not Included	Section 19 – Cumulative Impacts.	This Section provided updated environmental baseline information and considered the potential cumulative impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those reported in the February 2010 ES and the December 2010 ES FID. Whilst no updated cumulative impact assessment was required, a consolidated cumulative impact assessment was provided.	Similar to the August 2014 ES FID, this Section provides updated environmental baseline information and has considered the potential cumulative impacts of GEC, identifying whether the likely significant effects on the environment from the Proposed Development would differ from those previously reported. No updated impact assessment is required.

4 SUMMARY OF THE FINDINGS OF THE IMPACT SECTIONS OF THE FEBRUARY 2016 ENVIRONMENTAL STATEMENT FURTHER INFORMATION DOCUMENT

4.1.1 Table 4.1 summarises the findings of the Impact Sections of the February 2016 ES FID, providing a summary of the assessment of whether the likely significant effects on the environment of the Proposed Development differ from those reported in the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID.

TABLE 4.1: SUMMARY OF THE FINDINGS OF THE IMPACT SECTIONS OF THE FEBRUARY 2016 ES FID

Impact Section	*Construction / Decommissioning*	*Operation*
Section 9 – Air Quality	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not release any additional pollutants / substances to air to those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to air quality) of the Proposed Development would not differ from those previously reported.	For Scenario 1, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not release any additional pollutants / substances to air to those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. For Scenario 2, the environmental baseline is materially the same as that previously reported. However, the use of different technologies in the Proposed Development will alter the release of pollutants / substances to air to those previously reported. Therefore, an updated air quality impact assessment was undertaken. Based on the updated air quality impact assessment, during operation, the likely significant effects on the environment (with regards to air quality) of the Proposed Development would not differ from those previously reported.

Impact Section	*Construction / Decommissioning*	*Operation*
Section 10 – Noise and Vibration	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not cause any additional noise or vibration to that previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to noise and vibration) of the Proposed Development would not differ from those previously reported.	For Scenario 1, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not cause any additional noise or vibration to that previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. For Scenario 2, the environmental baseline is materially the same as that previously reported. However, the use of different technologies in the Proposed Development will alter the release of noise and vibration to that previously reported. Therefore, an updated noise and vibration impact assessment was undertaken. Based on the updated noise and vibration impact assessment, during operation, the likely significant effects on the environment (with regards to noise and vibration) of the Proposed Development would not differ from those previously reported.

Impact Section	*Construction / Decommissioning*	*Operation*
Section 11 – Landscape and Visual	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously assumed and reported, the Proposed Development will be located wholly within the site covered by the Varied Consent and the structures / processes associated with the Proposed Development do not significantly differ from those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to landscape and visual) of the Proposed Development would not differ from those previously reported.	The environmental baseline is materially the same as that previously assumed and reported and the Proposed Development will be located wholly within the site covered by the Varied Consent. In terms of the structures associated with the Proposed Development: • For Scenario 1, the structures will not differ from those previously reported; but, • For Scenario 2, the structures will differ due to the use of different technologies. However, for Scenario 2, the structures will be smaller than / located in the same area as those of Scenario 1, and therefore will fall within the same visual envelope as that previously reported and assessed. Based on this, the structures associated with Scenario 2 would not be visible from any additional viewpoints. Therefore, Scenario 1 represents the 'worst-case' assessment scenario, and the assessment of Scenario 1 assesses the likely significant effects on the environment of both Scenario 1 and Scenario 2. Accordingly, no updated impact assessment is necessary, and the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during operation, the likely significant effects on the environment (with regards to landscape and visual) of the Proposed Development would not differ from those previously reported

Impact Section	*Construction / Decommissioning*	*Operation*
Section 12 – Ecology	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not release any additional pollutants or substances to air, land or water to those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to ecology) of the Proposed Development would not differ from those previously reported.	For Scenario 1, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not release any additional pollutants / substances to air, land or water to those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. For Scenario 2, the environmental baseline is materially the same as that previously reported and the Proposed Development will not release any additional pollutants / substances to land or water to those previously reported. However, the use of different technologies in the Proposed Development will alter the release of pollutants / substances to air and the release of noise / vibration to that previously reported. Therefore, an updated air quality impact assessment and an updated noise and vibration impact assessment are required. Both these assessments have shown that the likely significant effects on the environment would not differ from those previously reported (i.e. are predicted to be not significant) and, therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during operation, the likely significant effects on the environment (with regards to ecology) of the Proposed Development would not differ from those previously reported.

Impact Section	*Construction / Decommissioning*	*Operation*
Section 13 – Water Quality	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and Proposed Development will not use significant amounts of additional resources, release any additional pollutants / substances to water, involve any additional actions, present environmental problems or lead to any additional risks of contamination to water to those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to water quality) of the Proposed Development would not differ from those previously reported.	The environmental baseline is materially the same as that previously reported and the Proposed Development will not involve any additional actions, present environmental problems or lead to any additional risks of contamination to water to those previously reported. In terms of the use of additional resources and release of additional pollutants / substances to water: • For Scenario 1, the Proposed Development will not use any significant amounts of additional resources or release any additional pollutants / substances to water to those previously reported; but, • For Scenario 2, the use of different technologies in the Proposed Development will alter the amount of water consumption to that previously reported and alter the release of pollutants / substances to water from those previously reported. However, for Scenario 2, the amount of water consumption will be reduced from that previously reported for Scenario 1, the amount of pollutants / substances released to water will be reduced from those reported for Scenario 1 and the types of pollutants / substances released to water remain materially the same as those reported for Scenario 1. Therefore, they will fall within the range previously reported and assessed. Therefore, Scenario 1 represents the 'worst-case' assessment scenario, and the assessment of Scenario 1 assesses the likely significant effects on the environment of both Scenario 1 and Scenario 2. Accordingly, no updated impact assessment is necessary and the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during operation, the likely significant effects on the environment (with regards to water quality) of the Proposed Development would not differ from those previously reported.

Impact Section	*Construction / Decommissioning*	*Operation*
Section 14 – Geology, Hydrology and Land Contamination	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not use significant amounts of additional resources, release any additional pollutants / substances to land, involve any additional actions, present environmental problems, use / store / transport / handle / produce any additional substances / materials, produce any additional solid wastes, lead to any additional risks of contamination to land or lead to any additional risks of accidents to those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to geology, hydrology and land contamination) of the Proposed Development would not differ from those previously reported.	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not use significant amounts of additional resources, release any additional pollutants / substances to land, involve any additional actions, present environmental problems, use / store / transport / handle / produce any additional substances / materials, produce any additional solid wastes, lead to any additional risks of contamination to land or lead to any additional risks of accidents to those previously reported, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during operation, the likely significant effects on the environment (with regards to geology, hydrology and land contamination) of the Proposed Development would not differ from those previously reported.

Impact Section	*Construction / Decommissioning*	*Operation*
Section 15 – Traffic and Transport Infrastructure	For both Scenario 1 and Scenario 2, the Proposed Development will not generate any additional traffic movements to those previously reported. In terms of the environmental baseline: • With regards to routes used by the public for access to recreation, the baseline conditions are materially the same as those previously reported. Therefore, no updated impact assessment is necessary, and the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. • With regards to transport routes, following the improvements to highways infrastructure and sustainable transport facilities, there have been some changes to the environmental baseline. Based on the changes to the environmental baseline, the impact assessment should be evaluated to determine whether the likely significant effects differ from those previously reported. In summary, based on the evaluation: o With the exception of three links on the A13, the changes to the environmental baseline result in increased highway capacity and therefore a beneficial (or positive) effect on the impacts of the proposed Development on traffic and transport infrastructure. These impacts remain not significant and therefore no updated impact assessment is required; o For three links on the A13, the changes to the environmental baseline result in minor adverse impacts on traffic and transport infrastructure. However, these impacts are due to the growth in baseline flows (rather than being due to the Proposed Development) and remain not significant and therefore, no updated impact assessment is required; and, o Minor amendments are required to the recommended mitigation and monitoring due to minor changes to sustainable transport facilities. Accordingly, taking account of the mitigation and monitoring measures, the residual impacts on traffic and transport infrastructure remain not significant. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to traffic and transport infrastructure) of the Proposed Development would not differ from those previously reported.	For both Scenario 1 and Scenario 2, the Proposed Development will not generate any additional traffic movements to those previously reported. In terms of the environmental baseline: • With regards to routes used by the public for access to recreation, the baseline conditions are materially the same as those previously reported. Therefore, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. • With regards to transport routes, following the improvements to highways infrastructure and sustainable transport facilities, there have been some changes to the environmental baseline. Based on the changes to the environmental baseline, the impact assessment should be evaluated to determine whether the likely significant effects differ from those previously reported. In summary, based on the evaluation: o The changes to the environmental baseline result in increased highway capacity and therefore a beneficial (or positive) effect on the impacts of the Proposed Development on traffic and transport infrastructure. These impacts remain not significant and therefore no updated impact assessment is required; and, o One minor amendment is required to the terminology used in the recommended mitigation and monitoring due to the replacement of the London Gateway® Logistics Park Travel Plan with the LDO Travel Plan. Accordingly, taking account of the mitigation and monitoring measures, the residual impacts on traffic and transport infrastructure remain not significant. As such, during operation, the likely significant effects on the environment (with regards to traffic and transport infrastructure) of the Proposed Development would not differ from those previously reported.

Impact Section	*Construction / Decommissioning*	*Operation*
Section 16 – Cultural Heritage	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the structures / processes associated with the Proposed Development will not significantly differ from those previously reported, it is considered that no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to cultural heritage) of the Proposed Development would not differ from those previously reported.	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the structures / processes associated with the Proposed Development will not significantly differ from those previously reported, it is considered that no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during operation, the likely significant effects on the environment (with regards to cultural heritage) of the Proposed Development would not differ from those previously reported.
Section 17 – Socio-Economics	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not result in social changes which differ to those previously reported, it is considered that no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment (with regards to socio-economics) of the Proposed Development would not differ from those previously reported.	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously reported and the Proposed Development will not result in social changes which differ to those previously reported, it is considered that no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during operation, the likely significant effects on the environment (with regards to socio-economics) of the Proposed Development would not differ from those previously reported.
Section 18 – Consolidated Summary of Mitigation and Monitoring	N / A	N / A

Impact Section	*Construction / Decommissioning*	*Operation*
Section 19 – Cumulative Impacts	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously described, no other major development / projects have been progressed since the submission of the August 2014 ES FID, and there are no additional ancillary / consequential developments which have been progressed since the submission of the August 2014 ES FID, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during construction / decommissioning, the likely significant effects on the environment of the Proposed Development would not differ from those previously reported.	For both Scenario 1 and Scenario 2, as the environmental baseline is materially the same as that previously described, no other major development / projects have been progressed since the submission of the August 2014 ES FID, and there are no additional ancillary / consequential developments which have been progressed since the submission of the August 2014 ES FID, no updated impact assessment is necessary. Therefore, the impact assessment and associated recommended mitigation and monitoring contained within the February 2010 ES, the December 2010 ES FID and the August 2014 ES FID remains valid and appropriate. As such, during operation, the likely significant effects on the environment of the Proposed Development would not differ from those previously reported.