endesa ireland

Endesa Ireland Limited
3 Grand Canal Plaza
5th Floor
Grand Canal Street Upper
Dublin 4

Ms Sonja Smith,
Administration Officer,
Office of Climate, Licensing & Resource Use,
EPA,
Regional Inspectorate,
Inniscarra,
County Cork.

20th July 2010

Dear Ms Smith,

RE: P0606-03 – Application for Review of an Integrated Pollution Prevention and Control Licence

We write in response to the following request for additional information, as detailed in your letter of 2nd July 2010.

*"Please clarify if the daily and hourly discharge flow proposed for **SW2 Cooling Water System** in Table E.2(i) Emissions to Surface Waters of the IPPC application form is correct given that the EIS modelled a higher discharge flow."*

As detailed in the Great Island Hydrodynamic Modelling Report, submitted as Attachment I.2.2 of the IPPC application, it has been demonstrated that, under the conservative conditions modelled (and at a discharge flow rate of 25,000m^3/hr (600,000m^3/day) of cooling water), the existing emission limit values and associated conditions for SW2 as specified in the IPPC licence P0606-02 can be complied with.

For clarification and as per modelling in the EIS and IPPCL review application, Endesa Ireland Limited wish to apply for a maximum discharge flow rate of **25,000m^3/hr (600,000m^3/day)**, and not the anticipated or indeed approximate figure of 20,000m^3/hr (480,000m^3/day) as previously mentioned in table E.2.(i). Attached please find an amended Table E.2(i).

As requested, enclosed are 1 signed original, 1 hard copy and 2 electronic copies in electronic searchable PDF format on CD-ROM of this response.

Yours Sincerely,

Peter Gavican

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Grand Canal Street Upper, Dublin 4
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TABLE E.2(i): EMISSIONS TO SURFACE WATERS (One page for each emission)

Emission Point:

Emission Point Ref. Nº:	SW2
Source of Emission:	Cooling Water System
Location :	Cooling Water Outfall
Grid Ref. (12 digit, 6E,6N):	E 269030, N 114580
Name of receiving waters:	Barrow estuary
Flow rate in receiving waters:	Due to variable flow of the dynamic estuary and tidal conditions it is not appropriate to state exact figures for flow rates. Indicative flow rates are contained in section 3.2.4.2 of the hydrodynamic modelling report
Available waste assimilative capacity:	(Not available) kg/day

Emission Details:

(i) Volume to be emitted			
Normal/day	600,000 m^3	Maximum/day	600,000 m^3
Maximum rate/hour	25,000 m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	60 min/hr 24 hr/day 365 day/yr

TABLE E.2(ii): **EMISSIONS TO SURFACE WATERS - Characteristics of the emission** (1 table per emission point)

Emission point reference number: **SW2 (Cooling water system)**

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
Temperature	-	-	-	-	Max. change in temperature above normal conditions = 12 ºC				-
Chlorine	-	-	-	-	0.5	0.5	240	87,600	-

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Attachment A

A. Non-technical Summary

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the carrying on of the activity/activities, and describe mitigation measures proposed or existing to address these impacts. This description should also indicate the normal operating hours and days per week of the activity.

The following information must be included in the non-technical summary:

A description of:

- *the installation and its activities,*
- *the raw and auxiliary materials, other substances and the energy used in or generated by the installation,*
- *the sources of emissions from the installation,*
- *the environmental conditions of the site of the installation (e.g. soil and groundwater, air, noise, surface water),*
- *the nature and quantities of foreseeable emissions from the installation into each medium as well as identification of significant effects of the emissions on the environment,*
- *the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation,*
- *where necessary, measures for the prevention and recovery of waste generated by the installation,*
- *further measures planned to comply with the general principles of the basic obligations of the operator i.e.*

(a) all the appropriate preventive measures are taken against pollution, in particular through application of the Best Available Techniques (BAT);
(b) no significant pollution is caused;
(c) waste production is avoided in accordance with Council Directive 75/442/EEC of 15 July 1975 on waste; where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment;
(d) energy and other resources are used efficiently;
(e) the necessary measures are taken to prevent accidents and limit their consequences;
(f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.
(g) measures planned to monitor emissions into the environment.

A.1 Non-technical Summary

A.1.1 General

Endesa is the leading utility in the Spanish electricity system and the number one private electricity company in Latin America. It is a significant provider in the energy sector across the European and Mediterranean region. Endesa Ireland Ltd was established as an operating company on January 8th, 2009, following Endesa's acquisition of certain generation assets from the Irish State utility the Electricity Supply Board (ESB). The assets purchased comprise of four generating sites; Great Island in Wexford, Tarbert in Kerry, Rhode in Offaly and Tawnaghmore in Mayo.

Endesa Ireland Ltd submitted a planning permission to An Bord Pleanala for a Combined Cycle Gas Turbine Generating Station (herein referred to as CCGT) on December 3rd, 2009. The development is to be located within the boundary of the current Great Island generation site. The planning application has been submitted under section 37A of the Planning and Development (Strategic Infrastructure) Act 2006. The site is currently brown field in nature with the current plant remaining available until the new plant is commissioned and operational. The current plant is operated under an IPPC licence, (register reference P0606-02), located at Great Island Generating Station, Campile, New Ross, Co Wexford. It is anticipated that the new plant will become operational in early 2013. Endesa Ireland Ltd is submitting a formal application to the Environmental Protection Agency for a "Review" of the current IPPCL to accommodate the proposed new CCGT power plant. The proposed location of the new CCGT power plant is within the boundaries of the Great Island site which is subject to compliance with the current licence as referenced above. Endesa Ireland is seeking a reviewed IPPC licence to accommodate the operation of the new CCGT while ensuring operation and availability of the existing/current facility remains unchanged until the new CCGT is commissioned. It is important therefore that any of the conditions which are in force for the HFO plant should remain unchanged during the construction period of the new facility. Once the CCGT is commissioned the existing HFO plant will be decommissioned in accordance with the Residuals Management Plan approved by the Environmental Protection Agency under the current IPPC licence.

The proposed development is classified as a Category 1, Section 1.1 Activity under Annex 1 of the Integrated Pollution Prevention and Control (IPPC) Directive 96/61/EC, i.e. *Combustion Installations with a rated thermal input exceeding 50MW*. As such the Operator, Endesa Ireland Ltd, is required to submit an application for a review of the current operational licence (P0606-02), i.e. an IPPC licence, with the Environmental Protection Agency (EPA) for the inclusion of the proposed CCGT.

The development is located on the site of the existing generation station in the townland of Great Island, approximately 3.5 kilometres west of Campile village and approximately 15 kilometres south of New Ross. The location of the site is illustrated in Figure A.1.1 while the site layout is illustrated on Figure A.1.2.

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Notes

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2. ALL CO-ORDINATES SHOWN RELATE TO IRISH NATIONAL GRID CO-ORDINATES.
3. ALL SITE LEVELS REFER TO MEAN SEA LEVEL VERTICAL DATUM AT POOLBEG.
4. GENERAL SITE LEVEL IS +7.00M O.D.

Site Boundary

Property Boundary

0 500m 1000m

1:10000

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	06/05/10	VF	Issued for IPPCL	KMc	DMc

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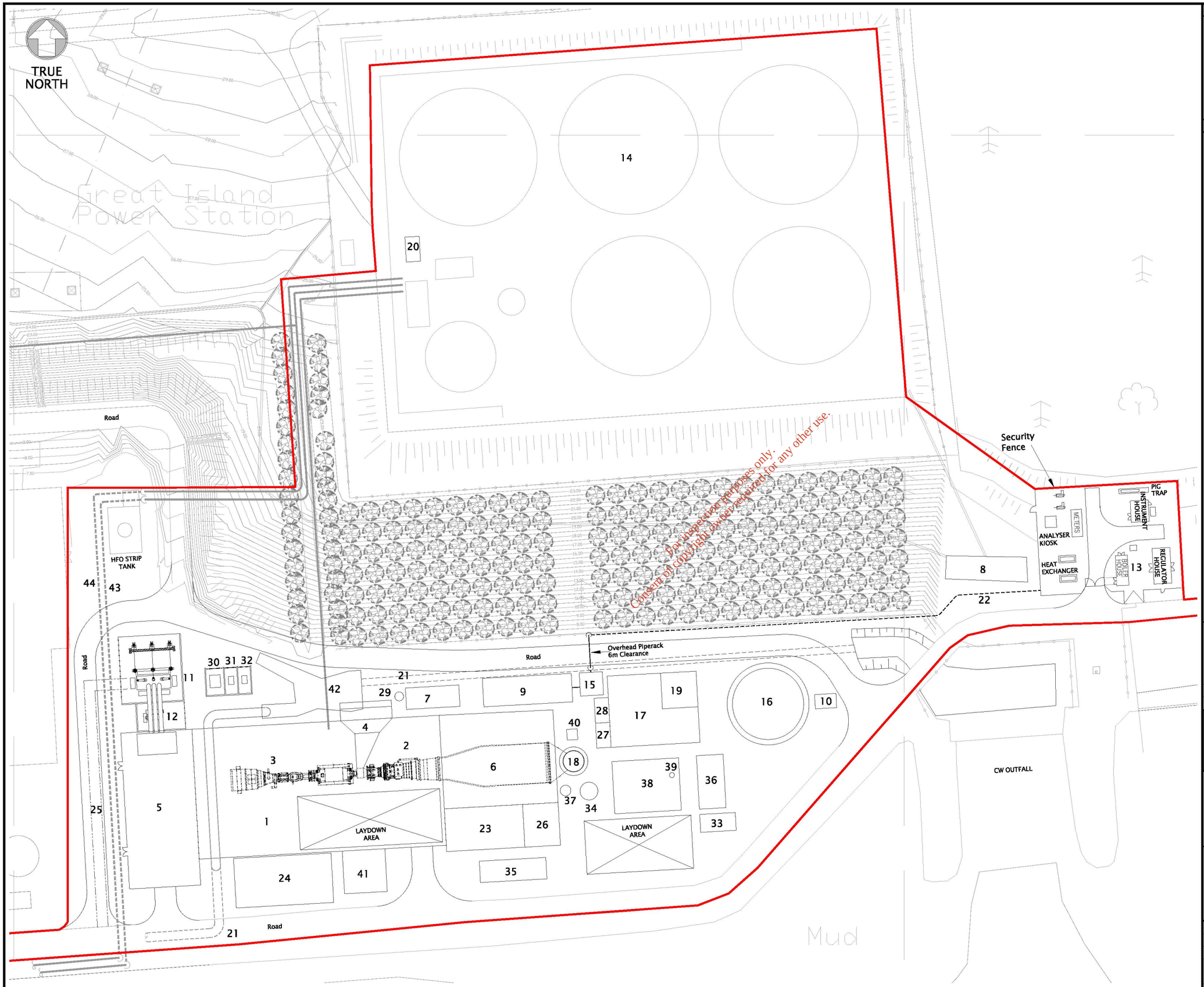
Title

Combined Cycle Gas Turbine (CCGT)
Great Island, Co. Wexford

Site Location Plan

Designed	-		Eng.Chk.	B.Kinsella	
Drawn	V.Farrell		Coordination	B.Kinsella	
Dwg.Chk.	V.Farrell		Approved	B.Kinsella	
Scale	1:10000	Project	257554		Status APR
		CAD file	A.1.1		
Drawing No	A.1.1				Rev P1



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Legend:

Boundary for New Power Station

1	GAS TURBINE AND STEAM TURBINE BUILDING
2	GAS TURBINE
3	STEAM TURBINE
4	AIR INLET FILTER TO GAS TURBINE
5	ELECTRICAL ANNEX & CONTROL ROOM
6	HEAT RECOVERY STEAM GENERATOR (HSRG)
7	CCW SKID
8	OIL SEPERATOR (RELOCATED)
9	GAS FUEL TREATMENT SKID
10	DEMINERALISED WATER SUPPLY PUMPS (NOX ABATEMENT)
11	GENERATOR TRANSFORMER
12	UNIT AUXILIARY TRANSFORMER
13	NATURAL GAS COMPOUND AGI
14	DISTILLATE OIL STORAGE TANK
15	GAS COMPRESSOR
16	DEMIN WATER STORAGE TANK (1 x 6,000m³)
17	WATER TREATMENT PLANT BUILDING
18	MAIN STACK
19	FIRE PUMP HOUSE (INSIDE EXISTING BUILDING)
20	DISTILLATE FUEL OIL FORWARDING PUMP SKID
21	CW CULVERT
22	GAS MAIN
23	BOILER FEED WATER PUMPS
24	FIN FAN COOLER
25	RAILS IN ROAD FOR TRANSFORMER REMOVAL
26	CHEMICAL INJECTION SKID
27	CAUSTIC STORAGE TANK WITH BUND
28	ACID STORAGE TANK WITH BUND
29	GAS TURBINE OILY WATER DRAIN TANK
30	STARTING TRANSFORMER
31	EXCITATION TRANSFORMER
32	AUXILIARY TRANSFORMER
33	SEWAGE TREATMENT PLANT
34	BOILER WASTE WATER DRAIN TANK
35	N2/H2/CO2 STORAGE
36	PROCESS WATER DISCHARGE PIT
37	BLOWDOWN VESSEL
38	AUXILIARY BOILER
39	AUXILIARY BOILER FLUE STACK
40	CONTINUOUS EMMISSION MONITORING (CEM) SYSTEM
41	CONDENSATE POLISHER
42	DISTILLATE OIL SUPPLY PIPE TO GENERATOR
43	HFO FILLING PIPE IN CONCRETE TRENCH
44	DISTILLATE OIL FILLING PIPE IN CONCRETE TRENCH

0 25m 50m

Scale 1:500

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	06/05/10	CC	Issued for IPPCL	KMc	DMc

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Title

Combined Cycle Gas Turbine
Great Island, Co. Wexford

Proposed Overall Site Plan

Designed	D. McRandal		Eng.Chk.	K. McGarvey	
Drawn	C. Cunningham		Coordination	D. McRandal	
Dwg.Chk.	K. McGarvey		Approved	D. McRandal	

Scale	1:500	Project 257554	Status APR
		CAD file A.1.2	
Drawing No	A.1.2		Rev P1

This Non-technical Summary is submitted as part of the supporting documentation for the IPPC licence application. This section provides a brief overview of the application only. It is recommended that the entire document is reviewed in order to understand fully the detailed information relating to the application.

A.1.2 Management of the Installation

Endesa Ireland Ltd will be the Owner and Operator of the plant. Endesa Ireland Ltd will have the ultimate responsibility for health, safety and environmental issues relating to the operation of the facility.

Endesa Ireland Ltd is a subsidiary of Endesa (the leading utility in the Spanish and Latin American electricity system) and therefore has access to a vast knowledge of operation and maintenance of CCGT power plants. Of the 39,656 MW of installed capacity that Endesa controls, over 17% of this is CCGT technology. In addition, the Great Island site is currently in operation with experienced staff that are very familiar with turbine technology and the Irish grid system. Similar to other CCGT power plants operating in Ireland it is envisaged that the Great Island site will be operated by Endesa Ireland Lyd while the maintenance will be carried out by a suitably qualified and technically competent Maintenance Contractor, with previous experience in operating and maintaining power plants.

All personnel will be technically competent and suitably qualified to undertake their assigned tasks. Personnel with responsibilities for operations, maintenance, health and safety and the environment will receive task specific technical training, as required. A Training Needs Matrix and Development Programme will be developed in accordance with changing training needs.

As per the current plant requirements all site personnel will receive Emergency Response and Environmental Awareness Training, incorporating resource (including waste), energy, water minimisation and noise control techniques. Site personnel will also receive environmental, health and safety training, including fire fighting and first aid as per current plant requirements and best practice systems. All external emergency services will be consulted regarding the change from HFO plant to CCGT.

The current plant has an Environmental Management System (EMS) and a new/revised site specific EMS will be developed and implemented for the new facility. The EMS will provide the framework for environmental management, compliance with appropriate regulatory requirements and the implementation of the principles of continuous improvement. The implementation of the EMS will include regular cross-functional management reviews and will be subject to both internal and external audits.

A.1.3 Combined Cycle Gas Turbine Process

The CCGT will have a nominal capacity of 440 MW and will export electricity, via an underground cable, to the on site switchyard.
The plant will normally operate on natural gas. In accordance with the requirements of the Commission for Energy Regulation (CER), distillate oil will be stored on site as a back-up fuel to be used in the event of an interruption to gas supply. The distillate oil used will have a Sulphur content of less than 0.1%.
The CCGT plant incorporates the following processes:

- A gas turbine, burning natural gas, drives a generator for electricity production.
- Exhaust gases from the gas turbine pass through a Heat Recovery Steam Generator (HRSG) to generate high-pressure steam.
- The steam generated in the HRSG drives a steam turbine, which also turns the generator providing additional electrical power.
- The steam is condensed back to water a Condenser for re-use in the HRSG.

Figure A.1.2 illustrates the infrastructure associated with the plant.

A.1.4 Emissions Control and Monitoring

High purity demineralised water will be required for use in the HRSG. Raw feedwater of drinking water quality, from the local Water Scheme will be treated in an onsite demineralisation plant. The site currently has capacity for the storage of 9,000m^3 of raw water prior to treatment in the demineralisation plant. The demineralised water will be thermally de-aerated and treated with conditioning chemicals, by controlled dosing, to prevent scaling and corrosion build-up in the HRSG.

(i) Emissions to Surface Water

The HRSG is a very specialised piece of equipment and it requires very pure water. In order to maintain the quality of the this water it will be necessary to continuously release 1% of circulating water in order to remove the build up of salts within the HRSG drums. This water is referred to as “blow-down”.

Four waste water streams will arise from the facility:

- Process waste water;
- Foul water;
- Surface water run-off
- Once through cooling for the condensor

Process waste water will comprise HRSG blow-down, condensate drain waste and waste water from the demineralisation plant. Process waste water will be discharged to a process wastewater discharge tank where its quality and temperature will be monitored prior to discharge. The pH will be monitored and adjusted, as required. Dissolved oxygen, pH, conductivity, Ammonia, Total

Organic Carbon and temperature will be continuously monitored, using an on-line analyser prior to discharge. The overall average volume of process waste water discharge is estimated to be 6.55m^3/hr. This equates to approximately 38% of the effluent discharges from the existing plant, which are of a similar physicochemical make-up.

Monitoring of specific parameters will be facilitated through the onsite laboratory. A new laboratory will be constructed, separate from the existing building.

Treatment of Foul water including domestic water-based waste from on-site welfare facilities, will be treated in a proprietary secondary treatment system prior to discharge to the estuary.

As per current plant practice, surface water run-off will drain via a silt trap and oil / water interceptor prior to discharge to the estuary. Monitoring of surface water will be undertaken in accordance with EPA requirements.

A continuous flow of cooling seawater will be required to absorb heat from the steam turbine condenser and, depending upon the final design of the plant, from other heat exchangers associated with the proposed CCGT plant. As is currently the case cooling water will be abstracted from the Barrow Estuary, utilising the existing water intake and outfall systems, with some upgrade/refurbishment works in the cooling water pump house, as required. However the overall demand will be significantly reduced from the current maximum demand. The proposed CCGT will not breach the existing IPPC licence and will provide significant benefits over the existing power station.

(ii) Atmospheric Emissions

As this plant will be the most modern in terms of equipment and system design the best available technology will be used to operate the facility ensuring optimum combustion conditions and high boiler performance that supports the minimisation of atmospheric emissions.

The main fuel used for generating electricity will be natural gas. This is a clean fuel resulting in negligible emissions of Particulate Matter and Sulphur Dioxide, the main atmospheric pollutants of concern relating to natural gas firing are therefore Nitrogen Oxides (NOx). In accordance with Best Available Techniques (BAT) technology, the gas turbine generator will be fitted with a dry low NOx burner to minimise such emissions.

As stated above and although the CCGT will normally be fuelled by natural gas, distillate oil storage and pumping facilities will also be provided per the CER secondary fueling requirements. To comply with the requirements of the CER the storage capacity of the back-up fuel supply should be such as to allow the plant to be operated for a period of 5 days, (i.e. approximately 11,000 m^3). Due to the quantity of distillate stored on site the facility is considered to be a lower tier Seveso site, as regulated by the Health and Safety Authority (HSA). Distillate oil will be stored in one of the existing 17,000m^3 bunded vertical cylindrical steel

tanks. The tank bund will be upgraded to ensure there is no risk of escape of distillate oil in the unlikely event of a catastrophic failure of the tanks. This approach was agreed with the HSA during the planning application process.

Distillate will be limited to a maximum Sulphur content of 0.1%. In accordance with BAT, and also depending on technology used, water injection will be employed when the plant is operating on distillate to further reduce NOx concentrations if required. It is anticipated that the plant will only operate on distillate for short-duration testing, estimated at three hours per annum.

Exhaust gases from the CCGT will discharge to the atmosphere via a 60 metre stack located at the outlet of the HRSG. The stack will incorporate an in-situ proprietary Continuous Emission Monitoring System, CEMS. The CEMS will continuously monitor atmospheric emissions from the facility in accordance with the requirements of the IPPC licence. Monitoring results will be documented and forwarded to the EPA in accordance with agreed timeframes.

A.1.5 Existing Environment and Impact of the Activity

The results of the atmospheric impact modelling and assessment indicate that the operation of the CCGT plant will not lead to any breaches of relevant air quality limit values. Overall, maximum short-term and long-term emissions are not considered likely to impair the environment, regardless of fuel type (Gas or distillate oil). In addition, based on the choice of technology and the type of fuel used, the plant presents a low carbon solution compared with alternative fossil fuel generation.

According to the interim 2008 Water Frame Directive classification the Barrow Suir-Nore-Estuary is classified as being of Moderate status. The WFD categorisation (and the associated Draft River Basin Management Plan for the SERBD) incorporates the discharges from the existing power plant which has been operational for over 40 years, with an established record of compliance. The NPWS considers the Barrow Nore-Suir-Estuary to be of good conservation status. The ecological status was considered to be Good, with all relevant general conditions classified as being of either High or Good status.

The interim WFD categorisation was defaulted to Moderate status due to failures in the chemical status category only, specifically BDE, Mercury, Benzo/Indeno-pyrenes, Endosulfan and Pentachlorobenzene. It should be noted that there are no known discharges from the proposed development which would introduce these elements into the receiving environment. Furthermore the current discharge from the existing HFO plant does not affect any of the substances listed above. The discharge from the proposed CCGT will be similar in make-up to the HFO plant, therefore no affect is anticipated on the *chemical status* category of the receiving water body. In addition to this the volumes of discharges proposed during the operational phase of the CCGT will be significantly reduced compared to the existing plant.

Due to the magnitude of impacts and the positive changes from the current situation, the proposed activities will not have an adverse effect on the integrity of the sites or the qualifying features of the conservation objectives of the Barrow Nore Suir estuary, which is a legally protected ecological habitat. As a consequence, the overall residual impact of the proposed development on surface waters during the operational phase is considered to be not significant, when compared with the existing situation.

The results of a Hydrodynamic Modelling report for cooling water discharges concluded (based on the analysis of a number of tidal scenarios) that the current plant is not causing a significant impact on the estuary, but also that reductions in both extent and temperature of the thermal plume once the CCGT is commissioned and the HFO plant is decommissioned will be achieved.

The impact of noise from the plant will be restricted to a relatively close area around the site. The proposed CCGT will comply with the limits set out in the current IPPC licence. A number of noise mitigation measures have been incorporated into the design of the plant to minimise the impact of such emissions. These measures include improved cladding surrounding the main noise sources; various elements of plant enclosed, optimised location of fans, etc. As is the case with the current IPPC licence, annual noise monitoring is proposed to be undertaken at various locations around the site boundary and environs.

A.1.6 Resource Use and Energy Consumption

(i) Resource Use

Raw materials used in the CCGT will include natural gas, distillate oil, water, conditioning chemicals, coolants, laboratory smalls, cleaning products and oils and greases. The use of natural gas and distillate oil will be optimised to meet the required combustion efficiencies and testing regimes.

Potable water, for use in the canteen, welfare facilities, water treatment plant and for general site cleaning is sourced from the Wexford County Council mains supply. Potable water consumption from the mains supply is currently approximately 177,161m^3/annum or 20m^3/hr, when all three Units are operating. In terms of the new CCGT development water for general use on site (i.e. canteen, welfare facilities etc.) is not expected to exceed the existing average flow of 0.86m3/hr. Therefore it is anticipated that the total amount of potable water required on site under normal operation will amount to 7.41m^3/hr. This equates to approximately 37% of the current demand of 20m^3/hr, once the CCGT plant has been fully commissioned.

Where necessary, supply of water from the County Council public water scheme will take place during low demand periods in order to minimise any potential impact on water supply in the area. As the site has large raw water storage capacity (9,000m^3) water supply from the Wexford Water Scheme can be managed effectively.

The feedwater entering the site will be of drinking water quality, this, combined with the closed loop CCGT system, further minimises water consumption and unnecessary water treatment. Dry cleaning methods will also be employed, wherever practicable.

The use of conditioning chemicals will be optimised through controlled dosing. As is the case with the current facility the use of laboratory chemicals will be determined by the on-site monitoring requirements, however their use will be minimised wherever possible. The gas turbine generator will be filled with Hydrogen as a closed circuit cooling medium. The hydrogen will be topped up by small amounts using a bottle storage system, as required. Cleaning products will be of a water based biodegradable nature, wherever possible. A hazardous detergent will however be required for compressor cleaning. Hazardous compressor cleaning products will be segregated in a locked cabinet with limited access to prevent misuse. Oils and greases will be used for the lubrication of the main mechanical components in the plant.

(ii) Energy Efficiency

CCGT technology is the most efficient form of conventional thermal power generation and in particular when once through direct cooling is used (as is the case with this development). Total electricity output will be up to 440 MW during optimum conditions. The overall generation efficiency will be approximately 58.5%, this equates to a thermal input of approximately 752 MW. An energy efficiency audit will be undertaken at the facility in accordance with the timeframe specified in the IPPC licence. Action items arising from the audit will be incorporated into the EMS.

A.1.7 Materials Handling

As is the case with the current facility, site specific operating procedures will be developed for the use, handling and disposal of raw materials and waste. Only appropriately trained personnel will be authorised to handle hazardous materials on site. All chemicals stored will be subject to a COSHH (Control of Substances Hazardous to Health) assessment and compliance with the requirements of REACH (*EC Regulation 1907/2006 for the Regulation, Evaluation, Authorisation and Restriction of Chemicals*).

Given the nature of this development, the volume of waste generated by site activities will be relatively small. Waste will be managed on site in accordance with the Waste Management Hierarchy. Where possible the generation of waste will be avoided. Where this is not possible the production of waste will be minimised and sent for recovery. Where this is not technically or economically feasible the waste will be disposed of. All waste will be managed by appropriately authorised contractors in accordance with relevant legislation.

A waste audit will take place within the timeframe specified in the IPPC licence. The waste audit process will identify all waste streams generated on site and determine opportunities for waste prevention, minimisation and re-use which will be incorporated into the EMS.

A.1.8 Accident, Prevention & Emergency Response

As is the case with the current plant, the proposed CCGT will be manned 24 hours a day, 365 days a year. Security will be managed on site by a specialist contractor and access to the site will be restricted.

All potentially polluting substances, including waste, will be stored in designated areas in appropriate UN approved containers within bunds, drip trays or spill pallets, as deemed necessary. All containers and bunds will be inspected regularly to ensure they have not become damaged or degraded. All areas on site with potentially polluting substances will be hardstanding with drainage networks directing run-off to contained areas for treatment or direct disposal off site via an approved waste contractor.

All tanks will be contained within bunds and fitted with level gauges and alarms which will be incorporated into a Planned Preventative Maintenance Programme (PPMP). Distillate oil will be stored in one of the existing on site upgraded tanks within the current tank farm. The bund for the tank farm will also be upgraded. Plant and equipment will be regularly inspected and maintained. Any faults detected will be prioritised. Faults associated with health and safety and environmental equipment will be given highest priority and action will be taken immediately. Leaks of potentially polluting substances will be repaired as soon as practicable. Drip trays will be provided immediately, if repair is not possible the leaking equipment will be appropriately contained prior to safe removal from the facility.

As per current plant procedures, accidental spillages will be contained and cleaned immediately by suitably trained personnel. Spill equipment stocks will be stored at strategic locations around the site. Stocks will be subject to regular inventory checks. Incidents, accidents and near-misses will be recorded on site and notified to the appropriate authorities in accordance with licence requirements.

Alarms and shut-off valves will be fitted along the gas supply pipeline. Where possible, the gas pipe will be welded to minimise the occurrence of leaks. Valves and flanges will be fitted with leak detection alarms connected to the manned control room. Valves on site will be fitted with manual override mechanisms. Safe shutdown programmes will be incorporated into the computerised control system.

Good housekeeping practices and regular monitoring of tanks and equipment will minimise the likelihood of leaks and spills occurring on site and ensure that if any leaks / spills do occur, they will be contained and controlled immediately.

As per current procedures, site inductions will include safety requirements and emergency evacuation procedures. Site personnel will be provided with training on accident prevention and emergency response.

Emergency drills will be undertaken as per current procedures. All the local emergency services will be consulted prior to commissioning of the new CCGT and any proposed changes in procedures will be developed in accordance with the recommendations of the local emergency services.

The current Emergency Incident Response Plan will be reviewed and revised where necessary in consultation with the local emergency services. The plan includes emergency response contact details for site personnel and emergency services, maps and plans of the facility, emergency procedures, chemical inventories and equipment lists.

The Fire Emergency Response Plan will also be reviewed and revised where necessary in consultation with the local fire department. Preliminary discussions with the Chief Fire Officer in Wexford County Council have already been initiated in this regard. Water and foam based fire protection and suppression systems will be installed on the new site in accordance with National Fire Protection Association (NFPA) guidelines. The gas turbine area will be fitted with a Carbon Dioxide suppression system. Fire alarms and fire extinguishers will be placed in all buildings on site in accordance with the recommendations of the local fire service. Training in their use will be provided by a suitably qualified specialist.

A.1.9 Remediation, Decommissioning, Restoration & Aftercare

As the new CCGT and existing HFO plant will not operate in parallel, decommissioning of each of the plants will be separately addressed.

Thus, the RMP (Residuals Management Plan) and ELRA (Environmental Liabilities Risk Assessment) documents which are currently in place and approved for the existing power plant will be implemented upon decommissioning of the existing HFO plant, in compliance with the current IPPCL.

In terms of the proposed CCGT, the plant is expected to be operational for at least 25 years. On cessation of activities the plant will either be redeveloped as a power generating facility or the site will be redeveloped in an alternative form. Considering the proximity of the site to the grid connection it is envisaged that the site will remain a power generating facility.

A detailed "Closure, Restoration and Aftercare Management Plan" (CRAMP) will be developed and submitted to the EPA within six (6) months of commencement of operations - or as otherwise agreed with the EPA - in accordance with *Guidance on Environmental Liability, Risk Assessment, Residuals Management Plans and Financial Provision, EPA (2006).*