+353 61 324587
info@axisenv.ie
www.axisenv.ie
Unit 5
Caherdavin Business Centre
Ennis Road
Limerick
Ireland
V94 NT63

06-05-2021

Environmental Protection Agency,
Environmental Licensing Programme,
Office of Environmental Sustainability,
PO Box 3000,
Johnstown Castel Estate,
Co. Wexford,
Y35 W821.

SSE Great Island: Industrial Emissions Licence Review P0606-04

To whom it may concern,

I refer to the Agency's letter of 09th March 2021 regarding the above licence review application. Please find our responses detailed below.

1. Environmental Impact Statement

We have attached a copy of the Environmental Impact Statement (EIS) compiled for Great Island CCGT Power Plant. This statement was submitted to An Bord Pleanala as part of the original planning application for the Combined Cycle Gas Turbine (CCGT) Plant. A copy was also furnished to the Agency as part of the original licence application for the CCGT plant.

We would like to draw the Agency's attention to an anomaly in this EIS on page 14-9 of the main report that states:

"It is anticipated that approximately 5 litres per day of Sodium Hypochlorite may be used on occasions. Chlorine concentrations in the cooling water discharge will be maintained at a maximum concentration of 0.5 mg/l chlorine measured at the cooling water outlet."

Text on page 14-3 would also indicate 5 litres per day of chlorine were to be consumed. The volume of sodium hypochlorite (14-15%) required varies between 0 – 5 cubic meters per day depending on seasonal requirements rather than 5 litres per day quoted in the report.

The Agency had accounted for chlorine emissions in their technical assessment of the licence application and restricted emission limit values in cooling water from 0.5 mg/l to 0.3 mg/l on commencement of the CCGT, in line with BAT guidance notes. This resulted in a c.60% reduction in the mass of chlorine licensed for discharge to the estuary. The licensee has consistently been compliant with chlorine emission limit values since the licence was issued.

In addition to the EIS and as supporting information to correct the anomaly, a hydrodynamic dispersion model of chlorine emissions to the estuary was completed by Mott McDonald in July 2020 (*Report Number 414088 I 001 I C*). In conjunction with this model, a marine ecological survey and biological impact assessment was completed by Aquafact in July 2020. Both reports have been submitted as part of this application and should be considered as addendums to the EIS.

2. Planning Decision from An Bord Pleanala

A copy of the Inspectors report and planning decision is attached to the appendix of this document.

3. Typographical Error

There was a typographical error in the licence application (P0606-04) in Section 4: Activity and Capacity under subsection 4.6: Water and Energy Usage. It was submitted in error that future surface water usage at the plant would be 2,890,800,000 cubic meters. There was an unintentional additional zero included in the submission. To clarify, the proposed future use of surface water at the installation would be c. 289,080,000 cubic meters per year. These values are estimate based on current operational requirements.

The amended table is attached:

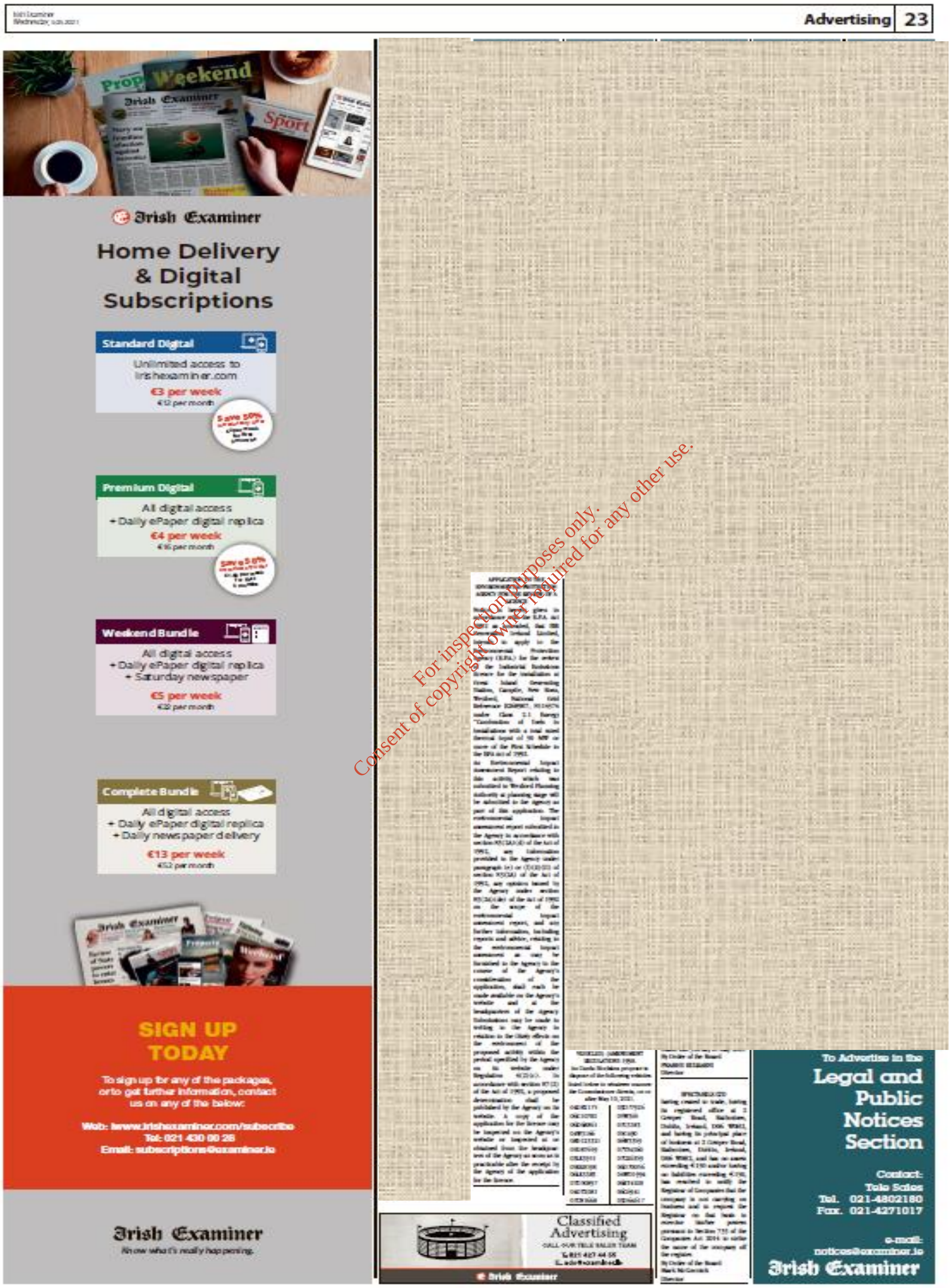
Table 3.1 (Table 4.6 Water Usage in the Application Form Amended)

Water Type	Current Usage Per Calendar Year (m^3/year)	Future Usage Per Calendar Year if Authorisation Granted (m^3/year)
Groundwater Abstraction	0	0
Surface Water Abstraction	201,993,000	c. 289,080,000
Public Supply	153,840	c. 200,000
Other	0	0
Total	**202,146,840**	**c. 289,280,000**

4. Updated Notices

A copy of the updated notices are included below. For GRDP purposes personal messages on the paper have been blanked out.

4.1 Newspaper Notice (Irish Examiner 05-05-2021 Page 23)

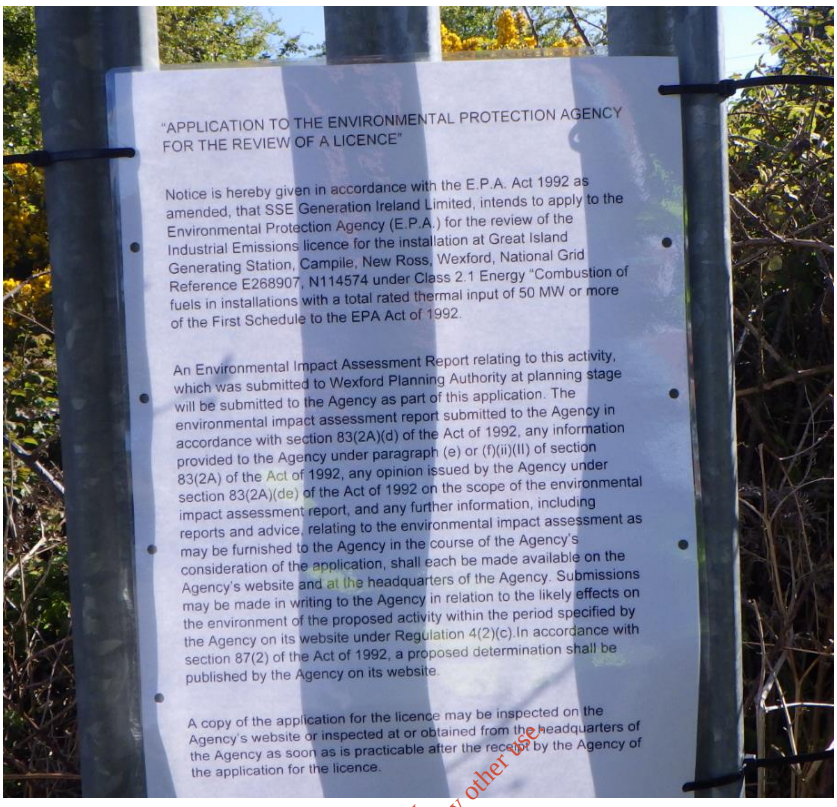


APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW OF A LICENCE

Notice is hereby given in accordance with the E.P.A. Act 1992 as amended, that SSE Generation Ireland Limited, intends to apply to the Environmental Protection Agency (E.P.A.) for the review of the Industrial Emissions licence for the installation at Great Island Generating Station, Campile, New Ross, Wexford, National Grid Reference E268907, N114574 under Class 2.1 Energy "Combustion of fuels in installations with a total rated thermal input of 50 MW or more of the First Schedule to the EPA Act of 1992.

An Environmental Impact Assessment Report relating to this activity, which was submitted to Wexford Planning Authority at planning stage will be submitted to the Agency as part of this application. The environmental impact assessment report submitted to the Agency in accordance with section 83(2A)(d) of the Act of 1992, any information provided to the Agency under paragraph (e) or (f)(ii)(II) of section 83(2A) of the Act of 1992, any opinion issued by the Agency under section 83(2)(ba) of the Act of 1992 on the scope of the environmental impact assessment report, and any further information, including reports and advice, relating to the environmental impact assessment as may be furnished to the Agency in the course of the Agency's consideration of the application, shall each be made available on the Agency's website and at the headquarters of the Agency. Submissions may be made in writing to the Agency in relation to the likely effects on the environment of the proposed activity within the period specified by the Agency on its website under Regulation 4(2)(c). In accordance with section 87(2) of the Act of 1992, a proposed determination shall be published by the Agency on its website. A copy of the application for the licence may be inspected on the Agency's website or inspected at or obtained from the headquarters of the Agency as soon as is practicable after the receipt by the Agency of the application for the licence.

4.2 Site Notice



"APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW OF A LICENCE"

Notice is hereby given in accordance with the E.P.A. Act 1992 as amended, that SSE Generation Ireland Limited, intends to apply to the Environmental Protection Agency (E.P.A.) for the review of the Industrial Emissions licence for the installation at Great Island Generating Station, Campile, New Ross, Wexford, National Grid Reference E268907, N114574 under Class 2.1 Energy "Combustion of fuels in installations with a total rated thermal input of 50 MW or more of the First Schedule to the EPA Act of 1992.

An Environmental Impact Assessment Report relating to this activity, which was submitted to Wexford Planning Authority at planning stage will be submitted to the Agency as part of this application. The environmental impact assessment report submitted to the Agency in accordance with section 83(2A)(d) of the Act of 1992, any information provided to the Agency under paragraph (e) or (f)(ii)(II) of section 83(2A) of the Act of 1992, any opinion issued by the Agency under section 83(2A)(de) of the Act of 1992 on the scope of the environmental impact assessment report, and any further information, including reports and advice, relating to the environmental impact assessment as may be furnished to the Agency in the course of the Agency's consideration of the application, shall each be made available on the Agency's website and at the headquarters of the Agency. Submissions may be made in writing to the Agency in relation to the likely effects on the environment of the proposed activity within the period specified by the Agency on its website under Regulation 4(2)(c).In accordance with section 87(2) of the Act of 1992, a proposed determination shall be published by the Agency on its website.

A copy of the application for the licence may be inspected on the Agency's website or inspected at or obtained from the headquarters of the Agency as soon as is practicable after the receipt by the Agency of the application for the licence.

4.3 Wexford County Council Notice

+353 61 324587
info@axisenv.ie
www.axisenv.ie
Unit 5
Caherdavin Business Centre
Ennis Road
Limerick
Ireland
V94 NT63

05-05-2021

Planning Section,
Wexford County Council,
County Hall,
Carricklawn,
Wexford,
Y35 WY93

To whom it may concern,

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR REVIEW OF AN INDUSTRIAL EMISSIONS LICENCE

Notice is hereby given in accordance with the E.P.A. Act 1992 as amended, that SSE Generation Ireland Limited, intends to apply to the Environmental Protection Agency (E.P.A.) for the review of the Industrial Emissions licence for the installation at Great Island Generating Station, Campile, New Ross, Wexford, National Grid Reference E268907, N114574 under Class 2.1 Energy "Combustion of fuels in installations with a total rated thermal input of 50 MW or more of the First Schedule to the EPA Act of 1992.

An Environmental Impact Assessment Report relating to this activity, which was submitted to Wexford Planning Authority at planning stage will be submitted to the Agency as part of this application. The environmental impact assessment report submitted to the Agency in accordance with section 83(2A)(d) of the Act of 1992, any information provided to the Agency under paragraph (e) or (f)(ii)(II) of section 83(2A) of the Act of 1992, any opinion issued by the Agency under section 83(2A)(de) of the Act of 1992 on the scope of the environmental impact assessment report, and any further information, including reports and advice, relating to the environmental impact assessment as may be furnished to the Agency in the course of the Agency's consideration of the application, shall each be made available on the Agency's website and at the headquarters of the Agency. Submissions may be made in writing to the Agency in relation to the likely effects on the environment of the proposed activity within the period specified by the Agency on its website under Regulation 4(2)(c).In accordance with section 87(2) of the Act of 1992, a proposed determination shall be published by the Agency on its website.

A copy of the application for the licence may be inspected on the Agency's website or inspected at or obtained from the headquarters of the Agency as soon as is practicable after the receipt by the Agency of the application for the licence.

If you have any queries, please do not hesitate to contact me,

Thanking you in advance

Yours Sincerely,

Mark McGarry
AXIS environmental services
087 6367436

5. Revised Surface Water Modelling Report

A revised surface water modelling report has been commissioned to assess the fate of free chlorine and its associated by-products in the estuary. This assessment includes obtaining and analysing water samples from the estuary.

This report will include field measurements and water analysis to validate the conclusions of the surface water modelling report submitted as part of this application. This report is not yet available from the consultants; therefore we would request a time extension from the Agency for this document. The final report will be complete and submitted as part of this review in June 2021.

6. Electrical Generation on Gas Oil

The CCGT is capable of operating on both natural gas and gas oil. Natural gas is the primary fuel used at this installation with gas oil retained on site in reserve. This is to secure electrical generation for the country in the event of an interruption to natural gas supplies.

Eirgrid request SSE to operate the installation on gas oil occasionally to ensure the station can change over on demand if called upon. This installation operated on gas oil for 294 hours since April 2015.

7. Oil Interceptors

The oil interceptors installed at the installation are Class I Status separators.

The south west container (04GNB12AT001) is 2000 mm diameter and 3465 mm length with a total volume of 10.9 m^3 . It receives an operating flow of 64.8 m^3/h. In storm conditions maximum inlet flow can be 266.4 m^3/h. During storm conditions excess flow is bypassed through the upper internal bypass without being treated. It is designed to bypass a flow of 201.6 m^3/h.

The south east container (04GNB14AT001) is 2000 mm diameter and 3815 mm length with a total volume of 12 m^3. It receives an operating flow of 79.2 m^3/h. In storm conditions maximum inlet flow can be 338.4 m^3/h. During storm conditions excess flow is bypassed through the upper internal bypass without being treated. It is designed to bypass a flow of 259.2 m^3/h.

The north container (04GNB15AT001) is 2000 mm diameter and 3815 mm length with a total volume of 12 m^3. It receives an operating flow of 82.8 m^3/h. In storm conditions maximum inlet flow can be 345.6 m^3/h. During storm conditions excess flow is bypassed through the upper internal bypass without being treated. It is designed to bypass a flow of 262.8 m^3/h.

8. Site Map

An updated site map is included in the appendix of this submission.

9. Air Dispersion Model

SSE are currently completing an updated air dispersion model for the installation in line with the EPA Guidance Note AG4 which was published in 2020. This report will be submitted to the Agency in June 2021.

10. Oily Water Volumes

The volume of oily water (13 05 07*) produced at the installation and submitted in the application was verified for 2019 as 76.76 tonnes. This consists of water and silt that was removed from interceptors. These are cleaned out bi-annually as part of the site maintenance program to ensure they are working at maximum efficiency. This water is treated as a hazardous substance given the function of these interceptors is to remove any potential oil getting into storm water.

The total volume submitted also includes periodic emptying of the purge air compressor tank which collects oily water generated from the compressor. All oily water was collected and treated by approved and certified contractors.

11. Waste Volumes 2020

The following table summarises the volumes of waste produced on site in 2020 which was submitted to the Agency in the Annual Environmental Report.

20 03 04 is present in large volumes due to the wastewater treatment plant been out of commission during the year. All sewage generated on site was transferred by tanker to an off-site wastewater treatment plant.

All waste generated on site is managed in line with the waste hierarchy. All waste moved off site is collected and treated by approved permitted and licenced contractors.

Table 11.1: AER Submission 2020

EWC	Description	Haz/Non-Haz	Tonnage
06 01 01*	Sulphuric acid and sulphurous acid	Hazardous	0.56
13 02 08*	Other engine, gear and lubricating oils	Hazardous	7.38
16 10 02	Aqueous liquid wastes other than those mentioned in 16 10 01	Non-Hazardous	322.46
19 02 04*	Premixed wastes composed of at least one hazardous waste	Hazardous	0.05
19 09 05	Saturated or spent ion exchange resins	Non-Hazardous	0.07
16 03 05*	Organic wastes containing hazardous substances	Hazardous	5.82
20 03 01 B	Municipal mixed residual non-household	Non-Hazardous	10.7
17 02 01	Wood	Non-Hazardous	9.58
17 04 07	Mixed metals	Non-Hazardous	30.57
15 01 06	Mixed packaging	Non-Hazardous	6.46
20 03 04	Septic tank sludge	Non-Hazardous	1,434.68
20 01 21*	Household waste fluorescent lamps and other mercury containing waste	Hazardous	0.07
13 07 01*	Fuel oil and diesel	Hazardous	19.58
15 02 02*	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	Hazardous	0.52
16 10 01*	Aqueous liquid wastes containing hazardous substances	Hazardous	59.16
16 02 14 D	Non-household other waste electrical and electronic equipment, non-hazardous	Non-Hazardous	1.77
15 01 10*	Packaging containing residues of or contaminated by hazardous substances	Hazardous	0.09
13 05 07*	Oily water from oil/water separators	Hazardous	226.04
08 03 13	Waste ink other than those mentioned in 08 03 12	Non-Hazardous	0.08

If you have any queries in relation to any of the information included as part of this submission, please do not hesitate to contact me,

Yours Sincerely,

Mark McGarry
Managing Director.

Appendix I – An Bord Pleanala Planning Decision

An Bord Pleanála

STRATEGIC INFRASTRUCTURE DEVELOPMENT

PLANNING AND DEVELOPMENT ACTS 2000 TO 2010

An Bord Pleanála Reference Number: 26.PA0016

(Planning Authority: Wexford County Council)

APPLICATION for permission under section 37E of the Planning and Development Act, 2000, as amended, in accordance with plans and particulars, including an environmental impact statement, lodged with An Bord Pleanála on the 3rd day of December, 2009 by Endesa Ireland Limited care of Mott MacDonald Ireland Limited of South Block, Rockfield, Dundrum, Dublin.

PROPOSED DEVELOPMENT: Construction of a combined cycle gas turbine (CCGT) power plant with an electrical output capacity of 430 mega watts (MW) within the confines of the existing power generating facility at Great Island, Campile, New Ross, County Wexford.

DECISION

GRANT permission under section 37G of Planning and Development Act, 2000, as amended, for the above proposed development in accordance with the said plans and particulars based on the reasons and considerations under and subject to the conditions set out below.

DETERMINE under section 37H(2)(c) the sum to be paid by the applicant in respect of costs associated with the application as set out in the Schedule of Costs below.

MATTERS CONSIDERED

In making its decision, the Board had regard to those matters to which, by virtue of the Planning and Development Acts and Regulations made thereunder, it was required to have regard. Such matters included the submissions and observations received by it in accordance with statutory provisions.

REASONS AND CONSIDERATIONS

Having regard to:

(a) the provisions of the National Development Plan 2007-2013 in relation to security of energy supply,

(b) the strategic goals of the Government White Paper, "Delivering a Sustainable Energy Future for Ireland" published in 2007, which seeks to ensure secure and reliable electricity and gas supplies and to be prepared for energy supply disruptions,

(c) the National Spatial Strategy 2002-2020 which seeks to strengthen energy networks in the regions,

(d) the document "Maximising Ireland's Energy Efficiency – the National Energy Efficiency Action Plan, 2009-2020" published by the Department of Communications, Energy and Natural Resources,

(e) the Submission of the Commission for Energy Regulation to the Joint Oireachtas Committee on Climate Change and Energy Security entitled "Meeting Ireland's Electricity Needs Post-2020 Consultation",

(f) the predominantly brownfield nature of the application site and its use as part of an existing power station,

(g) the existing electricity infrastructure, including 110KV and 220KV switching yards and high tension power lines, the latter of which would not require augmentation,

(h) the requirement to obtain an Integrated Pollution Prevention and Control (IPPC) licence,

(i) the advice given by the Health and Safety Authority, and

(j) the mitigation measures set out in the environmental impact statement,

it is considered that, subject to compliance with the conditions set out below, the proposed development would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health or safety, would be acceptable in terms of traffic safety and convenience, would be acceptable in terms of its effects on the environment and would be in accordance with the proper planning and sustainable development of the area.

CONDITIONS

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application as clarified by the drawings presented at the oral hearing and received by An Bord Pleanala on the 31st day of March, 2010, except as may otherwise be required in order to comply with the following conditions. Where such conditions require points of detail to be agreed with the planning authority, these matters shall be the subject of written agreement and shall be implemented in accordance with the agreed particulars. In default of agreement, the matter(s) in dispute shall be referred to An Bord Pleanála for determination.

   Reason: In the interest of clarity.

2. Save with a subsequent grant of planning permission, the development hereby permitted, subject to any consent procedure which may be applicable at the time, shall be demolished and cleared from the site within 30 years of the date of this permission and the site shall be returned to a condition as close as possible to that of a greenfield site. At least one year before the anticipated closure of the development hereby permitted, details of the closure and site restoration plan shall be submitted to and agreed in writing with the planning authority.

   Reason: In the interest of orderly development.

3. Save with a prior grant of planning permission, the application site, and the entirety of the landholding in the same ownership, as indicated in blue on drawing number 257554/01C/003, shall be used solely for purposes ancillary to and essential to the use of the site for the generation of electricity by means of a combined cycle gas turbine.

   Reason: In the interest of orderly development, traffic safety and residential amenity.

4. The proposed development shall incorporate all mitigation measures specified in the submitted environmental impact statement, save where any such mitigation measures relate to emissions to the environment falling within the scope of prevailing Integrated Pollution Control and Prevention licensing, responsibility for which rests with the Environmental Protection Agency.

   Reason: In the interest of clarity and to ensure binding commitment to all relevant mitigation measures proposed.

5. Construction and operational heavy goods vehicle traffic shall exit and access the R733 Regional Road via the junction at Burntschool Crossroads only. Other than the local road linking the site with this junction, there shall be no use of other local roads by heavy goods vehicles associated with the construction or operational phases of the development. Proposed haulage routes for construction traffic shall form part of a Construction Management Plan which shall be agreed with the planning authority in accordance with condition number 7 below.

Reason: In the interest of traffic safety and residential amenity.

6. The initial filling of the distillate oil storage tank shall be by means of a sea going tanker discharging at the jetty.

Reason: To limit heavy goods vehicle traffic generation, in the interest of residential amenity.

7. The construction of the combined cycle gas turbine (CCGT) power plant shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including:

(a) Details of the timing and routing of construction traffic to and from the construction site and associated directional signage.

(b) Measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network.

(c) Details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels.

(d) Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater.

(e) The means of ensuring that surface water run-off is controlled such that no silt or other pollutants enter local surface water sewers or drains.

(f) Details of on-site car parking facilities for site workers during the course of construction.

(g) A dust minimisation plan outlining the dust suppression measures proposed during the construction phase. These measures shall ensure that dust from the site and from site traffic shall not exceed 350mg per square metre per day at the site boundaries.

(h) An emergency response plan detailing procedures to be undertaken during the construction phase of the development, in the event of a spill of chemical, fuel or other hazardous waste on site.

(i) The containment and disposal of foul drainage from all site offices and construction facilities in an appropriate manner to prevent pollution.

(j) The location of all batching and mixing activity in areas well removed from watercourses and drains and the carrying out and containment of washout from the mixers of concrete lorries in designated impermeable areas.

(k) The maintenance of a record of daily checks confirming that works are being undertaken in accordance with the Construction Management Plan which shall be available for inspection by the planning authority.

Reason: To minimise emissions to the environment from the construction phase of the development and not covered by Integrated Pollution Prevention and Control licensing arrangements in order to protect groundwater and surface water and the general amenities of the area.

8. (a) During the construction phase of the proposed development, the noise level arising from the development, as measured at the nearest dwelling, shall not exceed:

(i) An L_{Aeq1hr} value of 70 dB(A) during the period 0800 hours and 1900 hours, Monday to Saturday inclusive.

(ii) An $L_{Aeq15\ minutes}$ value of 60 dB(A) during the period 1900 hours and 2000 hours. The noise at such time shall not contain a tonal component.

(b) All sound measurement shall be carried out in accordance with ISO Recommendation R 1996 "Assessment of Noise with respect of Community Response" as amended by ISO Recommendations R 1996 1, 2 or 3 "Description and Measurement of Environmental Noise" as applicable.

Construction activity outside these hours, other than works required in response to an emergency, shall require the prior written agreement of the planning authority and shall accord with the noise parameters set by the planning authority.

Reason: To protect the residential amenities of property in the vicinity of the site.

9. Prior to commencement of development, the developer shall submit to, and agree in writing with, the planning authority details of a monitoring plan in relation to surface water, groundwater, dust and noise from the date of commencement of works on site to the date of commissioning of the power station.

Reason: In the interest of clarity and protection of the environment prior to the commissioning of the power station.

10. Construction and demolition waste shall be managed in accordance with a construction waste and demolition management plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall be prepared in accordance with the "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects" published by the Department of the Environment, Heritage and Local Government in July 2006. The plan shall include details of waste to be generated during site clearance and construction phases and details of the methods and locations to be employed for the prevention, minimisation, recovery and disposal of this material in accordance with the provision of the Waste Management Plan for the region in which the site is situated.

Reason: In the interest of sustainable waste management.

11. Prior to commencement of development, a Construction Environmental Management Plan, as specified in the environmental impact statement, shall be submitted to, and agreed in writing with, the planning authority.

Reason: In the interest of the natural amenities of the area.

12. The site shall be landscaped in accordance with a comprehensive scheme of landscaping, details of which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This scheme shall include the following:

    (a) A plan to scale of not less than 1:500 showing –

        (i) The species, variety, number, size and locations of all proposed trees and shrubs, which shall comprise predominantly native species such as mountain ash, birch, willow, sycamore, pine, oak, hawthorn, holly, hazel, beech or alder.

        (ii) Details of screen planting, which shall not include *cupressocyparis x leylandii.*

        (iii) Details of roadside planting.

(iv) Hard landscaping works, specifying surfacing materials, furniture and finished levels.

(b) Specifications for mounding, levelling, cultivation and other operations associated with plant and grass establishment.

(c) A timescale for implementation.

All planting shall be adequately protected from damage until established. Any plants which die, are removed or become seriously damaged or diseased, within a period of five years from the completion of the development shall be replaced within the next planting season with others of similar size and species, unless otherwise agreed in writing with the planning authority.

Reason: In the interest of visual amenity.

13. Details, including samples, of the materials, colours and textures of all the external finishes to the proposed buildings and plant, shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

Reason: In the interest of the visual amenities of the area.

14. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. Such protection shall include avoidance of any disturbance to the bed of the estuary inside the jetty. In this regard, the developer shall -

(a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation including hydrological and geotechnical investigations relating to the proposed development,

(b) employ a suitably-qualified archaeologist who shall monitor all site investigations and other excavation works, and

(c) provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

15. In the event that it is intended to use cranes which would exceed the height of the existing oil storage tanks above Datum, the developer shall consult with the planning authority in conjunction with the operators of Waterford Regional Airport and shall comply with their requirements, if any, in relation to lighting or the adoption of luminescent paint.

Reason: In the interest of aircraft safety.

16. Final detailed measures (other than the reduced cooling water requirement which is a natural consequence of the combined cycle gas turbine), as proposed at the oral hearing, to minimise the incidence of fish impingement at the cooling water intake shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. The agreed measures shall be installed prior to commissioning of the new generating plant.

Reason: In the interest of orderly development.

17. Prior to commencement of development, a community liaison committee shall be established to liaise between the developer and the local communities. The membership of this committee shall reflect membership of the local communities of Cheekpoint and Horeswood (extending to Great Island) and shall include representatives from Waterford County Council, Wexford County Council and the developer. Full details of the committee shall be agreed between the planning authorities and the developer prior to commencement of development. The community liaison committee shall have responsibility for the administration of the community gain fund account to be set up in accordance with condition number 18 below and for decisions on projects to be supported by the fund in addition to acting as a liaison committee with the local communities in relation to ongoing monitoring of the operation of the proposed development.

Reason: To provide for the allocation of resources from the community gain fund in accordance with the requirements of the local community and to provide for appropriate ongoing review of operations at the site in conjunction with the local community.

18. A community gain fund shall be established to support facilities and services which will be of benefit to the communities in the vicinity. The fund shall be made up of four annual payments of €50,000 each (€200,000 in total) commencing on commencement of construction of the facility. The community gain fund shall be divided equally, annually, between the two communities in Counties Wexford and Waterford. Details of the management and operation of the community gain fund, which shall be lodged in a special community fund account, shall be agreed between the planning authorities and the community liaison committee, referred to at condition number 17 above.

Reason: It is considered reasonable that the operators of the facility should contribute towards the cost of environmental, recreational or community facilities which will be of benefit to the communities in the area and that the period of this contribution should be commensurate with the total period for the construction of the combined cycle gas turbine generating plant and the demolition of the existing generating plant.

19. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: In the interest of road safety and the proper planning and sustainable development of the area.

20. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act, 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

21. The developer shall pay to the planning authority a financial contribution as a special contribution under section 48(2) (c) of the Planning and Development Act, 2000, as amended, in respect of local road widening, drainage and resurfacing/strengthening works on the local road linking the development site with the R733 Regional Road at Burntschool Crossroads. The amount of the contribution shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board for determination. The contribution shall be paid prior to the commencement of the development or in such phased payments as the planning authority may facilitate and shall be updated at the time of payment in accordance with changes in the Wholesale Price Index – Building and Construction (Capital Goods), published by the Central Statistics Office.

Reason: It is considered reasonable that the developer should contribute towards the specific exceptional costs which are incurred by the planning authority which are not covered in the Development Contribution Scheme and which will benefit the proposed development.

22. The developer shall pay to the planning authority a financial contribution as a special contribution under section 48(2) (c) of the Planning and Development Act 2000 in respect of the replacement and rerouting of the existing watermain leading to the site. The amount of the contribution shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board for determination. The contribution shall be paid prior to the commencement of the development or in such phased payments as the planning authority may facilitate and shall be updated at the time of payment in accordance with changes in the Wholesale Price Index – Building and Construction (Capital Goods), published by the Central Statistics Office.

Reason: It is considered reasonable that the developer should contribute towards the specific exceptional costs which are incurred by the planning authority which are not covered in the Development Contribution Scheme and which will benefit the proposed development.

SCHEDULE OF COSTS

In accordance with section 37H of the Planning and Development Act 2000, as amended, the Board requires the following costs to be paid by the applicant-

To Wexford County Council as a contribution towards reasonable costs incurred in consideration of the application	€5,662
Total:	**€5,662**
Reimbursement of fees by An Bord Pleanála to the applicant	**€31,024**

Note: A breakdown of these sums are set out in the attached Appendix.

Member of An Bord Pleanála
duly authorised to authenticate
the seal of the Board.

Dated this day of 2010.

An Bord Pleanála

Inspector's Report

Development:	Construction of a 430MW natural gas fired Combined Cycle Gas Turbine (CCGT) power plant at Great Island, County Wexford

Planning Application

Planning Authority:	Wexford County Council
Applicant:	Endesa Ireland Ltd.
Type of Application:	Application to the Board under Section 37(e) of the Planning and Development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006.
Third party submissions:	See overleaf
Date of Site Inspection:	26th February, 2010
Inspector:	**Andrew Boyle.**

PROPOSED 430MW NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE (CCGT) POWER PLANT AT GREAT ISLAND, COUNTY WEXFORD.

26.PA0016

List of Observers

1. The Environmental Protection Agency
2. The National Roads Authority
3. The Irish Aviation Authority
4. The Railway Safety Commission
5. Great Island Generating Station Concerns Committee
6. The Health and Safety Authority
7. The Southern Regional Fisheries Board
8. The Department of Transport
9. Cheekpoint Community Alliance
10. Pat Moran
11. The Health Service Executive
12. The Department of the Environment, Heritage and Local Government

1.0 INTRODUCTION

This is a direct application to the Board for permission under Section 37(e) of the Planning and Development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006. The proposed development consists of a 430MW natural gas fired Combined Cycle Gas Turbine (CCGT) power plant. Pre-application discussions were held with the Board under Section 37(b) of the Act of 2000, as amended by the Act of 2006. On 5th November 2009, the Board served notice under Section 37(b)(4)(a) that it was of the opinion that the proposed development would fall within the scope of Paragraphs (a) and (b) of Section 37(a), namely that the development would be of strategic economic or social importance to the state or the region in which it would be situate and that it would contribute substantially to the fulfilment of any of the objectives in the National Spatial Strategy or in any Regional Planning Guidelines enforced in respect of the area in which it would be situate. The proposed development would fall within the third category given at Item 1 of the 7th schedule of the Planning and Development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act 2006, namely it would be *"a thermal power station or other combustion installation with a total energy output of 300MW or more"*.

2.0 THE SITE

The application site is located in a rural area in the townland of Great Island in County Wexford. It is about 13 kilometres south of New Ross and 8 kilometres west of the City of Waterford. It adjoins the shoreline of the River Suir, which is estuarine at this location. It is adjacent to the confluence of the River Barrow with the River Suir.

The application site is irregular in shape. It has a stated area of approximately 8 hectares. It is part of a more extensive landholding of approximately 58 hectares which forms the greater site area of the existing Great Island power station. It is located immediately east of the existing power station. It includes the tank farm fuelling the existing power station and located to its northeast. A service road, forming part of the application site, would lead off in an easterly direction and then continue in a northerly direction, just inside the boundary of the landholding, to give access to a rectangular area of 2.1 hectares, measuring 175 metres north - south and 120 metres east – west. This is also part of the application site.

The application site, at present, consists of a service road immediately above a sloping stone embankment leading down to mudflats beside the River Suir. This is followed, in a northerly direction, for a distance of about 60 metres by a fairly flat area of rough ground, transacted, east – west, by an access track. Three small buildings are located towards the western end of this flat area, taking up about 10% of its area. To the north of this area of rough ground there is an open cooling water channel. This is followed by a steep embankment planted with conifers, rising 17 metres over a distance of 21 metres. This continues upwards beyond a fenced enclosure to form the bund

surrounding the heavy fuel oil tank farm serving the existing power station. This consists of five 17,000 tonne tanks and two smaller tanks. The rectangular area, linked by a service road to the northeast of the main part of the application site is currently densely wooded. It is virtually level.

To the north of the main part of the application site, is a 2.5 hectare 220kV open air switchyard within a rectangular fenced compound measuring 230 metres east - west by 110 metres north – south. This is excluded from the applicant's overall landholding. To the east of the main part of the site, is a wooded area. To the south of the main part of the application site is the River Suir. To the west of the main part of the application site is the existing power station, an area of sloping undeveloped land and a 110kV substation, which is housed within a building.

3.0 THE PROPOSED DEVELOPMENT

It is proposed to erect a 430MW Combined Cycle Gas Turbine generating plant. The main component of the plant would be the gas turbine generator and steam turbine generator. These would be laid out in line, east - west, over a distance of 58 metres, almost centrally within the main part of the site. To the east of the gas turbine there would be a heat recovery steam generator, lengthening the combined turbine plant by a further 30 metres. The heat content in the hot exhaust gases from the gas turbine would be used to produce the high pressure steam which would be supplied to the steam turbine. The cooler exhaust gas would then be expelled to the atmosphere via an exhaust stack. This would be 60 metres in height and would be fabricated from painted carbon steel.

The turbines would be housed within a turbine building measuring 69.1 metres east - west, 36.6 metres north - south and having a height of 22.5 metres. This would be a typical modern portal frame building. Its walls would be clad in Kingspan Architectural Wall Systems MR/EB/FL-S/MM/CX/WV or equivalent. Its roof would be clad in Kingspan Insulated Roof Systems KS1,000RW or KS1,000LP/CR or equivalent. There would be a series of four forced extractor ducts on the roof.

The heat recovery steam generator would be housed in a building forming a continuation of the turbine building, in this instance measuring 31 metres east - west by 26.4 metres north - south and having a height of 30.9 metres. Material finishes would be as for the turbine building.

At the western end of the turbine building and forming an extension thereto, would be the electrical/control building measuring 20.4 metres east - west, 43.8 metres north - south and having a height of 13.1 metres. Material finishes would be as for the turbine building and the heat recovery steam generator building.

In a separate building, to the east of the heat recovery steam generator building, would be an auxiliary boiler. This would measure 18.7 metres east - west by 14.7 metres north - south and would have a height of 16 metres. It would have a stack to a total height of 30 metres.

Again in a separate building and to the east of the heat recovery steam generator building and north of the auxiliary boiler building, there would be a water treatment plant building. This would measure 25.6 metres east - west, 20.5 metres north - south and would have a height of 7.35 metres.

North of the heat recovery steam generator building there would be a gas fuel treatment skid housed in a separate building measuring 25.6 metres east - west, 8.6 metres north - south and having a height of 4 metres.

Apart from the buildings on the site, there would be a number of structures of the nature of plant or machinery. Notable amongst these would be

- A fin fan cooler measuring 17.5 metres east - west by 8.5 metres north - south and having a height of 6.55 metres above finished site level. This would be located to the south of the turbine building.

- A demineralised water storage tank with a height of 20.5 metres above finished site level and a diameter of 20 metres. This would be located to the east of the water treatment plant building.

- A boiler wastewater drain tank. This would have a height of 5.3 metres above finished site level and a diameter of 5 metres and would be located adjacent to the stack and east of the heat recovery steam generator building.

- Caustic and acid storage tanks. These would be horizontal cylindrical tanks measuring 5.7 metres north - south and having diameters of 2.75 metres. These would be within an open concrete bund adjoining the water treatment plant building to its west.

Other items of plant and machinery on site would include a heavy fuel oil strip tank, a generator transformer, a unit auxiliary transformer, a starting transformer, an excitation transformer, an auxiliary transformer, a gas turbine oily water drain tank, an air inlet filter to the gas turbine, a condensate polisher, a nitrogen, hydrogen and carbon dioxide storage compound, a fire pump house inside an existing building, a gas compressor, a process water discharge pit, a sewage treatment plant, a blow down vessel, a continuous emission monitoring system, demineralised water supply pumps for NO_x abatement, a relocated oil separator and, at the eastern extremity of the main part of the site, an above ground natural gas installation. The northern centre tank of the existing heavy oil tank farm would become a distillate oil storage tank. Within the bunded area of the tank farm there would be a distillate fuel oil forwarding pump skid. The existing open channel for cooling water passing east - west through the main part of the site, would be largely culverted.

The 2.1 hectare rectangular area to the northeast of the main part of the site would be used as a laydown area, i.e. an area for the storage of plant and materials. There would also be a laydown area within the turbine hall and another to the south of the auxiliary boiler and between it and the shoreline.

The primary fuel for the power plant would be natural gas, provided by Bord Gáis Energy Networks. The backup fuel would be distillate fuel oil. As required under EU Directive 1999/32/EC it would have a maximum 0.1% sulphur content. Distillate oil for five days continuous operating would be stored on site, equating to approximately 11,000 cubic metres, as required by the Secondary Fuelling Obligation, under the Commission for Energy Regulation's Decision Paper CER/09/001, *Secondary Fuel Obligations on Licence Generation Capacity in the Republic of Ireland.* The distillate oil would be contained in one of the existing heavy fuel oil tanks which would be refurbished. The distillate oil is required to maintain the running of the gas turbine in the event of a disruption of the gas supply. It is not envisaged that distillate oil would be used in the normal course of events other than for about 3 hours per annum for test firing.

Nitrogen oxides (NO_x) are the main pollutant concern in burning natural gas. They are also of concern with the burning of distillate oil. NO_x reduction is achieved by reducing the flame temperature through the mixing of air and fuel in a *"pre-mix flame",* when burning gas, and by the injection of high quality demineralised water, when burning oil. A maximum demineralised water flow rate of 94 tonnes per hour would be required in the combustion chamber of the gas turbine when operating on distillate oil.

The auxiliary boiler is required by certain plant suppliers to provide heat to the plant during start-up periods from cold conditions. If such a boiler is required, frequency of use would be limited to one or two events per month and would last for a short duration, typically 2-3 hours. The auxiliary boiler stack would be 30 metres in height in order to clear the height of adjacent buildings.

In the water treatment plant, water for use in the heat recovery steam generator would be demineralised to achieve a high purity. This would be through filtration and a resin based treatment system. Approximately 0.5 cubic metres per hour of wastewater, generated by the regeneration process of the resins in the water treatment plant would be discharged to the Process Water Discharge Pit. The raw feed water to the water treatment plant, which is of drinking water quality, would continue to be supplied from the existing 9,500 cubic metre reservoir, which, in turn, is supplied from the Wexford County Council supply. This reservoir is located on the overall power station landholding, approximately 180 metres northwest of the application site.

In the electrical transformer, the electrical power produced in the generating plant would be stepped up to 220kV, before passing, via a buried underground cable to the existing EirGrid switchyard. An emergency diesel generator would be provided to supply electricity to essential users in the event of an interruption to power supply. This would not operate under normal

conditions, other than for a short duration for testing for a maximum of 30 minutes per week.

In order to reduce the build-up of salts in the heat recovery steam generator drum, following water evaporation, it is necessary to continually "blow down" approximately 1% of the total 500 cubic metres per hour of circulating water. On occasion there might be a requirement to increase the blow down rate from the HRSG. This is an intermittent operation and would last for a very short period of time, a typical flow rate being about 45.5 cubic metres per hour.

The process water discharge pit would be sized to accommodate 200 cubic metres, i.e. the complete volume of water from the HRSG when drained after prolonged operation, or the complete volume of water for normal continuous blow down and intermittent blow down for a period of 4 hours or the complete volume of water for normal continuous blow down and effluent discharge from the wastewater treatment plant for a period of 36 hours.

A continuous flow of cooling water would be required to absorb heat from the steam turbine condenser and, depending on the final design of the plant, from other heat exchangers associated with the proposed combined cycle gas turbine plant. Cooling seawater would be abstracted from the Barrow Estuary in accordance with existing operations, utilising the existing water intake and outfall systems. This would be screened at the abstraction point. The screened cooling water would be routed via the cooling water pump house to the steam turbine condenser via a new culvert. It would then return to the estuary via the existing discharge channel. The cooling water would be chlorinated by direct ejection of Sodium Hypochlorite to control biological fouling. Overall cooling water demand would be significantly reduced from the current maximum demand of 50,170 cubic metres per hour to approximately 20,000 cubic metres per hour.

The new power plant would be connected to the existing national grid at the existing 220kV substation. Reinforcement works, if required on the existing 220kV system would be undertaken by EirGrid as part of a separate project.

The applicant is working closely with Bord Gáis Networks and Gaslink to develop a gas connection to the site. The gas connection, routing and construction would be undertaken by Bord Gáis Networks/Gaslink and would be the subject of a separate application for planning consent.

The Above Ground Installation at the eastern extremity of the main part of the site would be undertaken by Gaslink/Bord Gáis Networks. Gas supply to the site would be at a minimum guaranteed pressure of 19 barg and 15°C. The maximum operating pressure of the Bord Gáis pipeline is 70 barg. Depending on the turbine selected, the pressure required would be in the range of 35-50 barg. The gas would be filtered, preheated, metered and pressure reduced prior to supply to the gas turbine. The AGI would be owned by Bord Gáis and operated and maintained by Gaslink.

The demolition of the existing plant would be the subject of a separate application for planning permission to Wexford County Council. This application would be made within six months of decommissioning this existing power plant. The application would be accompanied by an Environmental Assessment, as required by the planning authority and relevant stakeholders.

Apart from the application site at Great Island, the applicants have acquired a small site in the townland of Coolerin. This is located on the south side of the local road serving the Great Island site just west of its junction with the R733 at Burntschool Crossroads. It is approximately 4 kilometres by road from the Great Island site. The purpose of this small site is to provide a parking area for up to four heavy goods vehicles making deliveries to the Great Island site during the construction phase, to allow them to await oncoming HGV traffic, as the road is too narrow to allow HGV's to pass in opposite directions.

The land immediately adjoining the site of the Great Island power station to the north and northeast is gently undulating agricultural land. Visually, it is heavily affected by the many overhead power lines leaving the power station, 220kV, 110kV and 38kV. To the south of the power station site, on the opposite side of the River Suir, at a distance of about 700 metres, is the village of Cheekpoint, in County Waterford. The land rises fairly steeply behind (south of) this village to a partly wooded summit at 129 metres. To the west of the existing power station site on the opposite side of the River Barrow, there is a wooded escarpment beyond which, there are fields in pasture, sloping upwards to a summit of 106 metres in the townland of Drumdowney in County Kilkenny. The Barrow Bridge, carrying the Rosslare/Waterford rail line, links the east and west banks of the river.

As required under Section 37E of the Planning and Development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006, an environmental impact statement is included with this application. The submission of an environmental impact statement would have been required, in any case, under Schedule 5, Part 1 of the Planning and Development Regulations, 2001 for a thermal power station with a heat output of 300MW or more.

4.0 THE ENVIRONMENTAL IMPACT STATEMENT

A single volume environmental impact statement has been submitted with this application. This includes, as a separate document, a non-technical summary. The main volume of the environmental impact statement is subdivided into 19 chapters and 12 appendices. The chapters are headed as follows.

1. Introduction
2. Background to the project
3. Description of the development
4. Legislation
5. Planning and policy context

6. Scoping and consultation
7. EIA methodology
8. Human beings - land use
9. Human beings – socio-economics
10. Traffic
11. Human beings - noise and vibration
12. Flora and fauna
13. Soils, geology and groundwater
14. Surface water
15. Air quality and climate
16. Landscape and visual
17. Material assets
18. Interactions of the foregoing
19. References

Much of the content of the EIS is noted in my assessment. I note immediately hereunder those parts of the EIS which warrant recording, but which are not included in my assessment.

Chapter 2 of the EIS, on the background to the project, includes Section 2.3 on the need for the development. It notes that the modernisation of Great Island power plant and the applicant's entry into the Irish market, would promote the strategy of competition in the energy market and would directly promote competitive energy prices. Figure 2.6, a typical profile of the electricity generation system, with the new power station inserted, shows that more efficient technologies, with cheaper generation costs, push old and expensive technologies out of the primary market. The older technologies are retained for security of supply purposes. The new power plant slots in immediately after combined heat and power and reduces the overall cost of electricity from the grid by pushing out older technologies. It also has a positive impact from an environmental perspective. Government policy, in the form of a White Paper *"Delivering a Sustainable Energy Future for Ireland (Energy Policy Framework 2007-2020)"* notes the need for substantial new investment in conventional power generation of the order of at least 1,000MW to 2013. This is to meet demand growth and the planned closure of older plants. The White Paper recognises that gas fired power stations will continue to play a key role over the period. There is recognition that in order to protect electricity security of supply, it is necessary to ensure that a mix of energy sources (other than wind on its own) is connected to the network.

Section 2.4 of Chapter 2, on site selection, notes that the applicant set key criteria to acquire regulated brownfield sites with a history of environmental compliance, that are suited to continued use, consistent with their established use as power generation facilities. The environmental and public interest benefits from re-powering an existing brownfield site are taken into account by the Commission for Energy Regulation (CER). The chosen site has the advantages of location on the Barrow Estuary for cooling water. The existing plant is licensed under IPPC licence P0606-02. It has an established record of compliance with the environmental regulatory authorities. Much of the existing infrastructure can be utilised, no additional land is required outside

the brownfield site and there is an established electricity infrastructure leading into the site.

Chapter 2 includes some content on alternatives. It includes Section 2.5 on alternative technologies, 2.6 on alternative fuels and 2.7 on the do-nothing scenario. Apart from the combined cycle gas turbine plant proposed, other possibilities would have been the combined cycle gas turbine plant with air cooled condenser, rejected on the grounds of the size of the structure required, noise generation and the fact that the preferred water cooling is readily available on site, the open cycle gas turbine rejected on the grounds of its high generating costs and its greater suitability to peaking plant operation, the conversion of the existing units, rejected on the grounds of technical and economic unfeasibility and the large scale combined heat and power plant, rejected on the grounds that there are no complementary industrial or district heating loads in the vicinity.

In terms of alternative fuels, it is noted that a number of factors need to be considered namely

- Environmental impacts
- Investment costs
- Operational efficiencies and unit size
- Site footprint

and

- Security of supply.

Solid fuels are noted to present significant investment costs in relation to emissions control, environmental monitoring and fuel handling and delivery. They require large unit sizes and development footprints. The alternative of operation on distillate oil would not be economically viable and would require fuel oil deliveries of about 730,000 tonnes per annum. Natural gas is a clean fuel with a negligible sulphur and particulate matter content. It can be piped directly to the site. It would result in significant reductions in carbon dioxide emissions. The potential emissions of the Greater Island plant are compared as follows.

- CCGT 0.3429tCO_2/MW
- Coal fired 0.8505tCO_2/MW
- Modern coal fired 0.7560tCO_2/MW

and

- Oil fired 0.6957tCO_2/MW

On the do-nothing scenario, it is pointed out that the formal legal agreement regarding the sale of ESB assets required that the acquired sites should only be purchased for the purpose of energy generation for the future. It is unlikely that electricity generation would cease at this location should the proposed CCGT power plant not proceed. As the base load CCGT power plant has been determined to be the optimum choice for the site, it is not possible to present probable alternative proposals at this stage, should the proposed development not proceed.

Chapter 4 of the environmental impact statement sets out the legislation which is considered to impinge on the proposed development.

The following are listed under the subheading European Directives and International Agreements:-

- EC Directive 85/337/EEC, as amended by Directives 97/11 and Article 3 of 2003/35/EC (commonly known as the Environmental Impact Assessment Directive);

- Integrated Pollution Prevention and Control (IPPC) Directive 96/61/EC, as amended by 2008/1/EC;

- Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants (the "Large Combustion Plant Directive", LCPD);

- Proposed Industrial Emissions Directive;

- Council Directive 96/82/EC on the control of major accident hazards involving dangerous substances as amended by Directive 2003/105/EC (Seveso II Directive);

-

- The National Emissions Ceiling (NEC) Directive 2001/81/EC; The Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) – Emissions Trading Scheme; and

- Greenhouse Gas Emissions Trading Directive 2003/87/EC.

The IPPC Directive was transposed into Irish law under the Protection of the Environment Act, 2003. The first schedule in this Act describes the activities that require an IPPC licence, including, *"energy: the operation of combustion installations with a rated thermal input equal to or greater than 50MW"*. The competent authority for IPPC licensing is the Environmental Protection Agency. The existing power plant operates under IPPC licence no. P0606-02. This licence will require to be revised to include the proposed development.

The Large Combustion Plants Directive was adopted in 1988 and revised in 2001. It applies to thermal plants with a thermal output of greater than 50MW and applies limits for the emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x) and particulate matter. The Large Combustion Plants Regulations, 2003 transposes the directive into Irish law.

The proposed Industrial Emissions Directive will replace and amalgamate a number of directives, including the IPPC Directive and the Large Combustion Plants Directive. It is likely to apply to combustion plants of a rated thermal input equal to or greater than 50MW. In general the directive will require that emission limits do not exceed the emission levels outlined in relevant Best Available Technology reference documents.

The Seveso II Directive is transposed into Irish law through the European Communities (Control of Major Accident Hazards Involving Dangerous Substances), Regulations, 2006. These "Seveso Regulations" apply to facilities where dangerous substances are held in quantities above specified threshold limits as set out in Annex 1, Parts 1 and 2 of the Regulations. The Health and Safety Authority (HSA) is the competent authority under these regulations. The directive applies at two levels – top tier and lower tier. The proposed development would be a lower tier operation as it would store approximately 10,000 tonnes of low sulphur distillate oil on site, i.e. between the lower tier thresholds of 2,500 and 25,000 tonnes.

The National Emissions Ceiling Directive requires that target limits on member states in respect of sulphur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds and ammonia be restricted to the levels specified in the directive by 2010,

Under the Kyoto Protocol, Ireland is committed to limiting its greenhouse gas emissions to 13% above its 1990 levels during the period 2008-2012. The European Union Council of Ministers has committed to achieving a 20% reduction in emissions from 1990 levels by 2020.

Under the Greenhouse Gas Emissions Trading Directive, if an operator does not meet its target, it can buy or sell allowances within the EU. Combustion installations with a rated thermal input exceeding 20MW are included in the scheme.

The Electricity Regulation Act, 1999 requires an authorisation from the Commission for Energy Regulation (CER) prior to commencing construction of a new generating station or reconstruction of an existing generating station. It also requires that a generation licence must be obtained. In order to ensure security of supply, CER applies secondary fuel supply requirements. Generating units expecting to operate in excess of 2,630 hours per annum are required to hold secondary fuel stocks equivalent to five days continuous running.

Under the Foreshore Acts, 1933-2005, a foreshore licence must be obtained prior to undertaking any works or placing structures or material on or for the occupation of or removal of material from state owned foreshore. A foreshore lease was granted for the existing power station in 1968. Part of this area, which is currently in use as part of the existing activity on site, is proposed to be used for the development. The applicants have engaged in consultation with the Coastal Zone Management Division and have served a copy of the application on the Minister of the Environment, Heritage and Local Government.

The Water Framework Directive was transposed into Irish law by the European Communities (Water Policy) Regulations, 2003, as amended in 2005 and 2008. Member states are required to achieve good status in rivers, lakes, estuaries, transitional waters, coastal waters and groundwater by the year 2015.

The European Communities Environmental Objectives (Surface Waters) Regulations, 2009, adopted on 30th July 2009,

- Give legal status to the standards and criteria being used by the EPA for classifying surface water quality in accordance with the ecological status of the Water Framework Directive requirements

- Give effect to the requirements of the Water Framework Directive to progressively reduce pollution to receiving waters for a list of 41 priority hazardous substances

- Prohibit discharges liable to cause water pollution, except where such discharges are subject to prior authorisation or general binding rules

- Establish environmental quality standards in surface water for a range of substances covered by the Dangerous Substances Directive (2006/11/EC).

The Flood Risk Directive requires member states to assess if watercourses and coastlines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. A preliminary assessment to identify river basins and associated coastal areas at risk must be completed by 2011 and flood risk maps drawn up by 2013.

Chapter 8 of the Environmental Impact Statement, on human beings – land use, in its summary conclusion, notes that a desk based assessment of the impacts on land use was undertaken to assess information relating to zoning, tourism, amenities and recreation and community facilities with the vicinity of the proposed development. It is noted that there are no schools, hospitals or churches within 1 kilometre of the site. However, a school and a GAA pitch are at about 5 kilometres from the proposed site. There is a number of houses in Cheekpoint at less than 1 kilometre from the site. A number of one-off houses and a railway line are located close to the site boundary. A number of planning applications have been granted permission nearby. However, it is pointed out that the proposed power plant would be located entirely within the confines of a brownfield site and would be consistent with the current activities on the site.

There would be a short term negative impact on the local community from increased traffic and HGV movements. There might be some temporary and short term negative impacts on local landowners such as impacts on cattle movements. In terms of mitigation, the EIS refers to the temporary HGV parking bay to be provided at Burntschool crossroads. This would minimise traffic disruption and would be restored, as close as possible to its original condition as agricultural lands, on completion of the construction phase.

Chapter 9 of the EIS, on human beings – socio-economics, notes that during the peak construction period up to 500 construction workers would be employed. As far as practical this would be local labour resulting in a significant positive medium term impact for the local economy. The construction workers would require accommodation, food and entertainment, thereby creating opportunities in the local service industry. Negative impacts during the construction phase are noted to include the landscape and visual impacts resulting from site compounds, temporary fencing, material storage, plant and machinery, vegetation stripping, dust generation and vehicle movements. Traffic generation would be a medium term negative impact. Noise and dust generation would be a medium term negative impact. These negative impacts are discussed further in the appropriate chapters.

During the operational phase, the most significant positive impact is noted to be the permanent employment opportunities that would be maintained through the operation of the power plant and supplying goods and services. The provision of a gas supply to the area would support the development for nationally strategic growth triangle in the southeast incorporating Waterford City, Wexford and Kilkenny as specified in the National Spatial Strategy.

In terms of mitigation measures, a Construction Environmental Management Plan would be developed and implemented by the contractor.

Chapter 17 of the environmental impact statement is on material assets. This is subdivided into a section on archaeology, architecture and cultural heritage and a section on utilities. The latter within the study area include a local authority watermain supplying water to the water reservoir in the north of the site, telecommunication services to and from the site and two substations (220kV and 110kV) located in the northern part of the overall site. All utilities that cross the area of the proposed development would be protected, lowered or raised, relocated or diverted during the construction phase, in order to avoid any disruption. All works associated with the construction of the new power plant would occur within the existing power plant site and no third party services would be likely to be impacted.

Comment

I consider the Environmental Impact Statement is comprehensive. It meets the statutory requirements on the information to be contained in an Environmental Impact Statement, as set out in Schedule 6 of the Planning and Development Regulations, 2001.

5.0 DEVELOPMENT PLAN PROVISIONS

5.1 The Wexford County Development Plan, 2007-2013

The site lies within the functional area of Wexford County Council. It is thus affected by the provisions of the Wexford County Development Plan, 2007-2013.

Chapter 6 of the development plan is on infrastructure, energy and waste. Section 6.5.0, on river water quality, notes that the EU Water Framework Directive signalled a new approach to water quality management based on river basin management. This assesses water quality and associated factors (including land use) within the basins and formulates integrated and coherent policies based on these. Policy Inf. 25 is to implement the provisions of the River Basin Management Plans (Eastern and South Eastern River Basin Management Plans) in order to protect the environment, public health and the recreational potentials of these water bodies.

Section 6.6.0 of the development plan is on air quality. It is noted that air pollution arising from the burning of fossil fuels is not at present a major problem in the county. Policy Inf. 25 (again!) is to protect the ambient air quality of the county through controlling industrial and other emissions by strictly enforcing the provisions of the 1987 Air Pollution Act.

At Section 6.8.0, on energy, the planning authority is supportive of energy efficiency in buildings, wind energy, solar energy, hydro energy, biomass/pellets, anaerobic digestion, geothermal energy, extending the gas transmission network and the undergrounding of electricity transmission lines in visually or ecologically sensitive areas. However, the development plan contains nothing that is specifically supportive of (or opposed to) the development of fossil fuelled power stations.

Chapter 3 of the development plan is on transportation. Section 3.3.3, on county roads, notes that these are also known as local roads and form the backbone of the roads network in the county. They are primarily service roads of great benefit to the immediate community served. Objective T13 is to continue improvement works on county roads so as to develop a safe and comprehensive road system for the county.

Chapter 9 of the development plan is on Heritage, Conservation and Landscape.

Section 9.3, on archaeological heritage, recognises this as a unique and special resource. Policy AH1 is to protect and enhance archaeological monuments and their settings. Policy AH2 is to protect the special attributes of the historic landscape, including battlefields, and to facilitate public access to the National Monuments in state care and local authority ownership in the county. Objective AH2 is to ensure that any development either above or below ground, within the vicinity of a site of archaeological interest, should not be detrimental to the character of the archaeological site or its setting and should be sited and designed with care for the character of the site or the setting. Objective AH3 is to seek, within the lifetime of the development plan, to designate archaeological landscapes in consultation with the Department of the Environment, Heritage and Local Government, as part of an ongoing landscape appraisal of the county. Such designation would require a variation to the development plan. Objective AH5 is to impose planning conditions in appropriate circumstances requiring professional archaeological supervision of

excavations, funding by the applicant of archaeological assessment, monitoring, testing or excavation of the site and submission of a report thereon and preservation of all or part of any archaeological remains on site. Objective AH6 is to seek to include archaeological landscapes as part of an ongoing Landscape Character Assessment of the county.

Section 9.4 is on natural heritage. It notes that natural heritage is threatened by development pressure, human activity and intervention. A sustainable approach requires that the stock of wildlife habitats and species should be protected for the benefit of present and future generations. The more important and unique habitats are subject to national and European Union designation as proposed Natural Heritage Areas, candidate Special Areas of Conservation and Special Protection Areas. Policy NH1 is to support the conservation of the abundance and diversity of habits characteristic of the county and their dependant plant and animal communities and to facilitate and cooperate with national agencies, local and community groups in their protection.

Subsection 9.4.1, on designated sites, notes that a range of different sites have been (or will be) designated under national and EU legislation and under the Ramsar Convention on wetlands. Amongst the candidate Special Areas of Conservation noted is 002162, the River Barrow and River Nore which adjoins the application site to its south.

Subsection 9.4.4 is on landscape. All aspects of the natural, built and cultural heritage are noted to come together in the landscapes experienced in the county. They are noted to give a sense of place. Identification with particular landscapes may contribute to a sense of wellbeing. The landscapes need to be managed so that change is positive in its effects, so that landscapes which are valued will be protected and those which have been degraded are enhanced. The development plan includes a Landscape Character Assessment. Policy L1 is to have regard to the guidance contained in this Landscape Character Assessment.

Subsection 9.4.5 is on woodlands, trees and hedgerows. Trees are noted to be an environmental, economic and landscape resource of great importance. Irish conditions are particularly suited to rapid tree growth. Policy NH1 is to encourage the conservation and maintenance of features important to local landscapes, including trees, hedgerows, stone walls, woodlands, ponds, streams and wetlands. Policy NH2 is to protect trees and woodlands of particular amenity and nature conservation value and to make Tree Preservation Orders where appropriate. Policy NH3 is to encourage woodland management and participation in tree and hedgerow planting schemes by community groups and others. Policy NH6 is to resist development proposals which would result in the loss of trees which make a valuable contribution to the character of the landscape, a settlement or its setting.

Chapter 10 of the development plan is on development standards. Subsection 10.16.0 refers to Seveso Establishments. It is noted that the National Authority for Occupational Health and Safety (now the Health and Safety

Authority), as the central competent authority, is obliged to provide technical advice to the planning authority in the case of decisions taken regarding

- Development within the vicinity of existing Seveso site areas
- The proposed development of a new Seveso Establishment and
- The modification of an existing establishment.

Subsection 10.15.1 notes that it is necessary for new Greenfield/Brownfield establishments to demonstrate that they do not present a risk of a dangerous dose greater than 5 x 10^{-6} to their current neighbours or a risk of a dangerous dose greater than 1 x 10^{-6} to the nearest residential type property. This may be relaxed in respect of neighbours where the new development is the same/similar to the existing neighbours, e.g. a new oil storage depot being set up in a location already occupied by tank farms.

Appendix 5 of the development plan is on Landscape Character Assessment. The Landscape Character Areas are shown on Map 7 of the development plan. The application site is shown to be just within the South Coast Landscape Character Area. Section 7.3 of Appendix 5 notes that the coastal areas of the county have a distinctive character that often overlaps abruptly with the lowland character which is abundant within the county. In general, the flat topography and the absence of rock shores mean that the character of the coastal areas is different for only a short distance from the shore. This generalisation is noted to have an important exception that leads to the definition of two different types of coastal landscape within the county. These are the east coastal landscape and the south coastal landscape. The latter is noted to be characterised by significant areas of enclosure such as Bannow Bay, Ballyteige, Tacumshin and Lady's Island. These features mean that the coastal character penetrates much further inland than on the east coast. Amongst the policies in the coastal character area is the encouragement of development that would not have a disproportionate effect on the existing character of the coastal environment in terms of location, design and visual prominence and the preservation of any areas that have not been subject to recent or prior development and have retained a dominantly undisturbed coastal character.

At Section 8 of Appendix 5, it is noted, in summary, that areas where enclosing topography, screening vegetation and/or existing development are present, should have a high potential to absorb new development. Five categories are recognised in a Sensitivity Zoning Key. These are degraded, robust, normal, sensitive and vulnerable. Robust refers to areas of existing development and infrastructure. New development in such areas reinforces existing desirable land use patterns. Section A10, on robust landscapes, notes that urban areas, towns and the environs of larger villages and lands that are intensively used for non-agricultural activities (such as quarrying) all have the capacity to readily absorb a wide range of types and scales of further development without significant change of landscape character.

5.2 The Kilkenny County Development Plan 2008-2014

The centreline of the River Barrow marks the boundary between County Wexford and County Kilkenny. This boundary is about 700 metres west of the application site. The Kilkenny County Development Plan, 2008-2014 applies in the functional area of County Kilkenny.

Chapter 9 of the development plan is on infrastructure and environment. At Section 9.8, it is recognised that the availability of energy is of critical importance to facilitate new development. It is noted that the National Development Plan, 2007-2013 sets out policies for the provision of electricity from both renewable and non-renewable sources. Subsection 9.8.1 states that the planning authority, in support of sustainable development and efficient energy utilisation, supports the infrastructural renewal and development of electricity networks in the region, including the overhead lines to provide the required networks, subject to amenity and health considerations.

Chapter 8 of the development plan is on heritage. Subsection 8.2.1, on designated natural heritage sites of international and national importance notes that the habitats in the county of international and national importance are designated under EU and national legislation. It recognises four categories of designated site, amongst which are Special Areas of Conservation. Table 8.1 lists the designated natural heritage sites of international and national importance in the county. They include the River Barrow and River Nore Special Area of Conservation. Policy H5 is to protect natural heritage sites designated in national and European legislation. Policy H6 is to assess all proposed developments (individually or in combination with other proposals, as appropriate) which are likely to impact on designated natural heritage sites or those sites proposed to be designated. Policy H7 is to consult with the prescribed bodies and relevant government agencies when assessing developments which are likely to impact on designated natural heritage sites or those sites proposed to be designated. Policy H8 is to ensure that any development in or near a designated natural heritage site will avoid any significant adverse impact on the features for which the site has been designated. Policy H9 is to require an appropriate environmental assessment in respect of any proposed development likely to have an impact on a designated natural heritage site, or those sites proposed to be designated.

Subsection 8.2.10, on inland waters, rivers, streams and wetlands, notes that the waterways and wetlands of the county are of great importance in terms of their influence on the landscape, as a wildlife habitat and as an amenity resource. It is noted that the Barrow Navigation System runs along the eastern border of the county with Counties Carlow and Wexford. Policy H48 is to protect and enhance the natural heritage and landscape character of the waterway corridors and wetlands and to maintain them free from inappropriate development.

Subsection 8.3.1 is on Areas of High Amenity. This notes that the planning authority established Areas of Special Control within the county in the 1986 county development plan and that this was continued in the 1994 county

development plan. The designation was amended to Areas of High Amenity in the county development plan of 2002. While it is intended that the Landscape Character Assessment would be the main guiding force for the assessment of developments in the county, the Areas of High Amenity are being retained. This is to allow the development of the Landscape Character Assessment policies in an historical policy context. As with all areas of the county, a high standard of design and siting will be required for all development in the Areas of High Amenity. Areas of High Amenity are listed in Appendix F of the development plan. Amongst these is the Barrow/Suir Estuary between New Ross and Wexford *(sic)*, bordered by rivers and by road no. 674.

Subsection 8.3.2 of the development plan is on views and prospects. The development plan recognises a need to protect and conserve views and prospects adjoining public roads and river valleys throughout the county, where these views are of high amenity value. The views and prospects to be preserved and protected are contained in Appendix F of the plan and are shown on Figure 8.1. Amongst these is V22 – views over the confluence of the Rivers Suir and Barrow at Snow Hill on road nos. LS7483 from its junction with road no. LP3414 and view from road no. LT74831–7 between road nos. LS7483 and LT74831-9. Policy H52 is to preserve and improve places or areas from which views or prospects of special amenity value exist.

Subsection 8.3.3 is on Landscape Character Assessment. A report on Landscape Character Assessment was prepared in 2003 and is included as Appendix C of the development plan. Four broad categories of landscape unit types are identified, namely Upland Areas, Lowland Areas, River Valleys and Transitional Areas. The immediate area bounding the Rivers Barrow and Suir is categorised as River Valley, with that immediately adjoining it being an Upland Area. Subsection 8.3.3.3 sets out policies for river valleys. Policy H68 is to direct new development, whenever possible, towards the vicinity of existing structures and mature vegetation. Policy H69 is to ensure that development will not detract from scenic vistas, especially from bridges, as identified in the development plan and visible from relevant scenic routes and settlements. Policy H72 is to facilitate appropriate development that reflects the scale, character and sensitivities of the local landscape.

5.3 The Waterford County Development Plan 2005-2011

The centreline of the River Suir is the boundary between Counties Wexford and Waterford. This boundary is at a distance of about 400 metres to the south of the application site. The functional area of County Waterford is affected by the provisions of the Waterford County Development Plan, 2005-2011.

Chapter 8 of the development plan is entitled "Environment". Section 8.1 is on the Rural Landscape. The management of the county's landscapes is noted, inter alia, to involve protecting sensitive areas from injurious development, while providing for development and change that would benefit the rural community. In general, development in the landscape should seek to avoid dominance, minimise abrupt transitions and high levels of contrast. The

development plan encourages the renewal, intensification and maintenance of established developments, land uses and activities, subject to the sensitivity of the existing natural and cultural environment and developments or land uses which integrate with or increase the efficiency of the use of established activities. It discourages developments that unduly impinge upon or disrupt natural linear features such as skylines, coastlines and riverbanks.

Section 8.3 of the development plan is on landscape protection. There will be a presumption against the granting of planning permission for development in coastal and upland areas which are located outside of settlements. Policy E2 is that development will only be considered where such proposals do not have an adverse impact on the landscape along the coast road from Youghal to Cheekpoint.

Section 8.7 of the development plan is on habitat protection. It is recognised that in order to protect the diversity of the natural environment, it is essential to conserve habitats. Designated areas (candidate and proposed NHA's, SACs and SPAs) are noted to require protection. They are listed in Appendix 2 of the development plan and include the Nore/Barrow candidate Special Area of Conservation.

Appendix 4 of the development plan is on scenic landscape evaluation. It includes Section 6.6(b) on policy with regard to scenic routes. These are public roads from which views and prospects of areas of natural beauty and interest can be enjoyed. It is noted that sightseeing visitors are more likely to be concentrated along these routes. The onus should be on the applicant for permission to develop in the environs of a scenic route, to demonstrate that there would be no obstruction or degradation of the views towards visually vulnerable features or significant alternations to the appearance or character of sensitive areas. Amongst the scenic routes is Item 15 which includes part of Regional Road R683 north of Passage East.

6.0 THE NATIONAL DEVELOPMENT PLAN, 2007-2013

Chapter 7 of this Development Plan is entitled "Economic Infrastructure Priority". Included in this chapter is an energy programme. This would encompass some 8.5 billion euro in investment in energy over the period of the plan. The overall strategic objective of the energy programme will be to ensure security of energy supply nationally and regionally, which is competitively priced, in the long term, while meeting a high level of environmental standards. The ability of the economy to perform successfully is noted to depend critically on the supply of adequate, affordable and environmentally sustainable energy. Security of supply is seen as being of paramount importance to ensuring the continued economic development of the country and the spending under the plan would help ensure that objective. Without an expectation and delivery of a secure supply of energy, investment and output of the economy would suffer. Energy policy formulation is noted to be taking place against the background of volatile energy prices, concerns

about security of supply and enhanced environmental standards and obligations.

7.0 THE REGIONAL PLANNING GUIDELINES FOR THE SOUTHEAST REGION, 2004

These Guidelines aim to implement the National Spatial Strategy in respect of the southeast region.

Section 5 of the Guidelines sets out an infrastructure strategy. Subsection 5.4, on energy, notes that the Southeast Region strongly supports national and international initiatives for limiting emissions of greenhouse gases and encouraging the development of renewable energy sources. It notes that local authorities, the private sector and national energy production and regulation agencies are encouraged to formulate sustainable energy policies which would seek to achieve a number of specified objectives, amongst which is ensuring security of supply in order to support economic and social development, to protect the environment, to maximise the efficiency of generation, to minimise the emissions of greenhouse gases and other pollutants, both by clean generation and by sustainable consumption, to maintain local air quality and to limit or reduce the regional contribution to national and global environmental problems.

8.0 THIRD PARTY OBSERVATIONS

As noted at the commencement of this report, three third party submissions were received by the Board in connection with this application. All of these submissions take the form of objections. The major areas of concern are road access and traffic management, the gas pipeline, the long term future of the overall site, the length of the construction and demolition period, visual impact, monitoring, the need for limitations on the construction phase, the content of the capped waste disposal areas, the cooling water discharge, stack height, fish impingement and community gain.

8.1 Road Access and Traffic Management

This is the prime issue with the Great Island Generating Stations Concerns committee. The traffic management system proposed will not satisfy the local residents. The access road is approximately 2 miles long and is a very dangerous stretch of road, even without the additional traffic which would be generated during the construction phase. The local authority has no funds to upgrade this road at present and this should be a priority for the applicants.

The Gas Pipeline

The Great Island Generating Station Concerns Committee has unspecified *"concerns regarding proposed layout of Gas Line"*. The Cheekpoint Community Alliance considers that the proposed development should be

considered only in tandem with the proposed gas pipeline and its impacts. It notes that there are no contingency plans in the event that the gas pipeline is not permitted.

The Long Term Future of the Overall Site

There is no comprehensive plan for the entire site over the lifespan of the proposed plant, with the possibility of ongoing incremental development which could lead to the degradation of the site and surrounding environment. The observation from Pat Moran questions whether the final development will be one power station or two power stations or one power station and a port. If the existing power station is removed, this would open up the area inside the jetty, for purposes unknown. The submission from Pat Moran questions whether parts of the overall landholding have been sold to third parties who would have rights of access over the landholding.

The Duration of the Construction and Demolition Period

The construction and demolition period is considered to be excessively long and would cause significant impact at Cheekpoint, Faithlegg and the surrounding areas. It is submitted that a condition should be imposed requiring that demolition and construction be carried out concurrently. The need for the continued use of the existing plant as a backup from 2010 – 2012 is questioned in the context of other new generating capacity coming on stream.

Visual Impact

The Cheekpoint Community Alliance claims that the application fails to adequately mitigate the visual impact of the proposed plant on the village of Cheekpoint. As proposed, it would be visually obtrusive in its starkness, colour finish, and lack of screening towards the river. There would be a loss of broadleaf woodland. A condition should be imposed making the demolition of the unused sections of the existing plant mandatory and placing a time limit on such demolition. Compensatory measures should be required for the removal of the trees. The observation from Pat Moran questions whether the applicant has sufficient funds to undertake the demolition.

Monitoring

The Cheekpoint Community Alliance submits that a continuous fixed monitoring station or stations should be sited at locations in Cheekpoint village and the surrounding areas to monitor air quality, noise levels, dust emissions and water quality during construction and operation. Similarly, a permanent continuous monitoring station should be located at Faithlegg National School to monitor long term impacts on air quality.

The Need for Limitations on the Construction Phase

The Cheekpoint Community Alliance submit that specific conditions should be laid down with regard to the maximum allowable limits for noise and dust emissions and that working hours should be restricted during the construction period.

The Content of the Capped Waste Disposal Areas

The Cheekpoint Community Alliance notes the presence of a capped waste disposal facility on the site which is claimed to be contaminated with asbestos. It submits that a full survey of this site and its impact on groundwater should be carried out to ensure that the potential for any leaching of harmful residue into the river is avoided. The submission from Pat Moran also queries the content of this area and whether or not there would be a further future waste disposal site for the proposed development.

The Cooling Water Discharge

The Cheekpoint Community Alliance alleges that the impact of the heat plume and its chemical components from the water outflow have not been sufficiently investigated to guarantee that there would be no negative impact on the marine life of the River Suir.

Stack Height

Both the submission of the Cheekpoint Community Alliance and that of Pat Moran question the adequacy of the stack height. The much greater height of the existing stacks is noted, as is the failure of the original stack at Smartply at Belview to achieve adequate dispersion. The accuracy of the dispersion modelling is questioned.

Fish Impingement

The Cheekpoint Community Alliance submits that the proposed "engineering solution" to fish impingement should be in place prior to planning permission for the proposed plant being granted.

Community Gain

It is submitted that community gain should be invoked for the village of Cheekpoint to offset the very high level of disruption which would arise over the 30 month construction period and the 24 month demolition period. Examples where the Board sought such community gain are cited, namely, Ringsend, Toome, County Louth and Lumcloon, County Offaly.

9.0 RESPONSE OF THE APPLICANT

The applicant has responded to the third party submissions. I summarise the response in the same order as the topics raised in the third party observations.

Road Access and Traffic Management

In relation to the access road, the applicant commissioned a specialist company to establish the strength of the existing road and make recommendations in relation to strengthening, where required. Since the completion of the technical report, the applicant has engaged in discussions with the local authority to address its findings. It is only the local authority which can undertake works on the road and the applicant is in discussions in relation to an appropriate contribution towards such works. The proposed Traffic Management Plan would be safe and carry minimal impact to other road users. Proposed lay-by facilities at either end of the approach road would result in construction traffic being platooned, with controlled speeds. A Traffic Management Plan would be submitted to the local authority prior to the start of construction. The applicant would consider limitations on operation times, local engagement, speed limitations, disciplinary procedures for infringements of construction traffic regulations, driver induction courses, etc. The applicant is working with the local authority in developing design proposals for upgrading the road.

The Gas Pipeline

The gas pipeline project is being developed by Gaslink and is not the responsibility of Endesa. The planning application for the pipeline would be supported by an EIS and is currently progressing through the planning process. The same response is made in relation to the lack of contingency plans in the event of the gas pipeline not being permitted.

The Long Term Future of the Overall Site

The applicant does not currently have any strategic plans for any further development on the Great Island site. Any future significant development would be subject to planning permission. The on-site switchyards remain in the ownership of the ESB and there are no other rights of access over the landholding.

The Length of the Construction and Demolition Period

The construction period has been kept to a minimum and, as detailed in the EIS, mitigation measures would be put in place to keep any disturbance to a minimum. The existing power plant would be demolished once the new plant becomes operational as there is not sufficient grid connection capacity to permit operation of both the existing and new plant at the same time. Until the new plant is commissioned, the existing plant must be retained as there is control and protection equipment for the 110kV and 220kV compounds within

it and, in addition, in terms of National Grid Security, the generation capacity at Great Island must be maintained until that time.

Visual Impact

The applicant is committed to liaising with the Cheekpoint Community Alliance and the planning authority in determining appropriate colours and aesthetic finishes, to ensure that the visual impact of the development is minimised as far as practicable. The observer and the forest service would be consulted in developing a strategy for any replacement planting.

Monitoring

The applicant is committed to complying in full with any ambient monitoring regime required by the EPA in the revised IPPC licence. As detailed in the EIS, a Continuous Emissions Monitoring System would be installed on site, supplemented by appropriate discrete sampling. Under the IPPC regime, the applicant would be obliged to report monitoring results to the EPA and these in turn could be viewed by the public. In relation to Faithlegg National School, it is pointed out that the EIS presents a comprehensive assessment of air quality impacts. The plant can only operate once an IPPC licence is in place. This would ensure that any relevant standards and regulations would not be contravened and that there would not be environmental pollution.

The Need for Limitations on the Construction Phase

The applicant is committed to the implementation of any condition the Board might apply to a grant of planning permission with the proposed development and any subsequent conditions imposed by the EPA under the IPPC licensing regime.

The Content of the Capped Waste Disposal Areas

This area is not part of the area for development and therefore does not form part of the application. It consists of two cells made up predominantly of rock generated from the construction of the original generating station, when areas of the site were levelled to allow construction. The northern part of the eastern cell was also used for general waste disposal during the operation of the generating station between the mid-1960s and mid-1990s. Material disposed included fuel oil, boiler washings, laboratory waste, building rubble, canteen waste and asbestos removed during turbine overhauls and other maintenance activities. In 2005, the landfill was capped according to health, safety and environmental instructions from the ESB. A cover of 600 millimetres of fill was followed by a 1 millimetre linear low density polyethylene liner and then a further 400 millimetres of fill. It was then top soiled and grass seeded. The capping of the landfill acts as a barrier to surface water and rainwater percolating through the landfill and transporting contaminants to the groundwater body beneath. It would also act as a barrier to the mobilisation of asbestos and the risks of exposure to asbestos containing

materials. The areas are monitored in accordance with the existing IPPC licence and reported to the EPA on an annual basis.

The Cooling Water Discharge

The EIS is felt to accurately address the impacts of the heat plume and its chemical components on the marine life of the River Suir. The temperature difference between inlet and outlet would remain unchanged at 12°C and the volume of discharge would decrease substantially. The maximum thermal load would decrease from 352MWth to 291MWth. There are no negative effects from the existing discharge plume and, based on the lower volume of the new plume, the effects would be potentially smaller overall. Potential differences in temperature distribution in comparison to the existing plume are not expected to affect the existing sub-tidal and inter-tidal benthic communities, as the plume would be buoyant and, therefore, temperatures would rapidly drop with increasing depth, as is the case at present. Potential temperature increases on inter-tidal substrates are considered less harmful as such habitats are often commonly exposed to varying conditions from seawater and air temperatures. The plume is expected to be too small for persistent warm conditions to develop that could potentially lead to a depletion of dissolved oxygen in the water body and any overall deterioration in the water quality. The response notes that the submission from the Department of the Environment, Heritage and Local Government held that the proposed development did not pose a known significant threat to the River Barrow and River Nore Special Area of Conservation.

Stack Height

Attention is drawn to Chapter 15 of the EIS on air quality and climate and to Appendix 15.2 in relation to stack height determination. Emissions of NO_x and CO would be maintained below emission limits prescribed by EU legislation by ensuring good combustion efficiency. Sulphur dioxide and particulates emissions would be virtually negligible when firing on natural gas and very low when firing on distillate oil. The height of the stack has been determined by advanced dispersion modelling using the Atmospheric Dispersion Modelling System, Version 4.1. This took into account the terrain, and wind data from Rosslare, the nearest relevant measuring station. This showed that at stack heights below 50 metres, local building wake effects would have a significant influence on dispersion. This would no longer be the case at heights above 60 metres and hence this height was adopted.

Fish Impingement

The applicant is working with the Southern Regional Fisheries Board to devise a system to deter fish from entering the cooling water system. The modification at the intake would be in place prior to commissioning the new powerplant.

Community Gain

The applicant would comply with any condition specified by the Board in a grant of planning permission, including conditions in relation to community gain.

10.0 SUBMISSION FROM WEXFORD COUNTY COUNCIL

A submission has been received from Wexford County Council. It consists of a planner's report, supported by technical reports from various sections of the planning authority and an extract from the County Council minutes of 8th February 2010. The latter states that in relation to the proposed development, the Members considered the report of the County Manager. Following discussions, the members endorsed and supported the report of the County Manager.

The planner's report notes the planning history of the site, including the granting of permission for the original generating station in 1965 and the extension to the generating station in 1968. The remaining planning history of the site consists of lesser ancillary developments.

The report continues by summarising national, regional and local policy, including the National Spatial Strategy, the South Eastern Regional Planning Guidelines, 2004 and the Wexford County Development Plan, 2007-2013.

Five European designations are noted, namely, the River Barrow and River Nore SAC (002162), the Lower River Suir SAC (002137), the Barrow River NHA (000698), Ballyhack NHA (000695) and Waterford Harbour NHA (00787).

There are no protected structures within the site, but the Barrow railway viaduct, less than 300 metres from the site, is noted to be listed as a protected structure by Kilkenny County Council. It is submitted that the proposed development would not significantly alter the setting or significantly impact on this protected structure more than the existing power plant. There are no recorded monuments within the site or directly impacted by the development, but given the wealth of known monuments around Great Island, its history and strategic location on the confluence of two rivers, the site is considered to have potential for subsurface archaeology. The planning authority recommends that archaeological monitoring should take place during the construction period.

Potable water demand is noted to reduce from 11 cubic metres per hour to 6.5 cubic metres per hour. This is within the capacity of the existing pipe network and the storage being provided would cut down on draw-offs from the network. The 40 year old pipe infrastructure in the area is on long term rehabilitation. The first section to be replaced would be the existing 7 inch main running to the Island. The 2.7 kilometre length of this replacement main would require a capital contribution of €250,000.

The report notes no flood events recorded on the site but that there have been major floor events upstream in New Ross, at Cheekpoint and Waterford. While the proposed floor levels exceed the 1 in 200 year flood event and also accommodate a 1 metre rise in sea level, caution is still advised as further research into coastal flooding has yet to be completed by the Office of Public Works.

It is noted that upgraded effluent treatment systems would be provided for all discharges from the operation of the power plant. The quantity of the discharge would be significantly reduced and the quality of the treated effluent would be improved. Further assessment of the system would be required which would also be subject to Environmental Licensing.

The local road network and in particular, the R733 and the county road connecting the R733 to the proposed development have the capacity to cater for traffic associated with both the construction and operational stages of the proposed development. The structural integrity of the county road is the subject of ongoing discussion with the applicant. Improvement works up to a value of €1 million would be required on this road. This is thought to be at the upper end of the likely cost. The improvement works would include local widening, drainage and resurfacing/strengthening works and should be undertaken prior to the commencement of heavy construction activities.

In terms of impact on the landscape, it is noted that the application site is located in the South Coastal Area under the County Landscape Character Assessment. The existing power plant is well screened by the topography, when viewed from the north. However, the existing structures are highly visible and have a significant impact when viewed from elevated positions at Dunbrody and lands to the southeast. Even though the proposed structures are larger in scale and would thereby have an increased visual impact, the significance of the change is regarded as limited from the viewing points in the county. It is submitted that the proposed development would impact on the view from Cheekpoint, County Waterford, but, again, the new development would be viewed in the context of the existing power plant, thereby reducing the significance of its impact. The planning authority request that the Board should seek to ensure that the architectural quality of the buildings detailing and materials are of a high standard. Additional landscaping proposals should be made to improve the overall visual appearance and ecological value on the site boundaries, or on the larger site. Appropriate conditions should be imposed.

The submission notes that the existing site was found to be of no conservation value and that no terrestrial habitats of ecological value are present. There would be the loss of a relatively recently planted wooded area. The five European designated sites in the vicinity of the site are again noted. Cooling water discharge would be reduced and mitigation measures are proposed in relation to the construction phase. The capacity of the receiving water should reduce the impact of the discharges from the plant and these would be monitored and supervised by the EPA under the terms of the IPPC licence.

The modelling of the atmospheric emissions is noted to be well below the relevant air quality standards.

The submission claims that construction noise could have a significant impact, but that this would be over short periods of time. The planning authority request that conditions be placed to restrict construction activities on site, including vehicles servicing the development site. It is noted that up to 500 people would be employed during the construction phase. It is not possible to say how many of these would be from the locality, but the specialist nature of the project might well mean that outside contractors would be used. The new power plant, like the present power plant, would offer continued employment in the area.

The submission notes that the proposed development would impact on the local communities of Horeswood in County Wexford and Cheekpoint in County Waterford during the construction period. While the proposed development would bring significant economic gains to the southeast region, further benefits should be provided to the local communities. The planning authority supports the request by the Cheekpoint residents to develop a joint forum covering both counties. Community structures exist within Wexford and the New Ross County Community Forum could assist in achieving this result.

Planning contributions for water, roads and community are calculated at a total of €216,894. In addition there would be a requirement for special contributions towards road improvement and repairs at €1 million and water supply at €250,000.

The report from Wexford County Council continues by recommending conditions which should be applied in the event of the Board granting permission. These include contribution conditions, a general planting and landscaping condition, an archaeology condition, a condition requiring that details of materials, colours and textures should be agreed with the planning authority prior to commencement of development, a requirement that the management of waste materials during the construction phase should be undertaken in accordance with a Waste Management Plan and a requirement that the construction hours of the proposed development should be restricted to 0700 hours to 2100 hours on Mondays to Saturdays and to 0900 to 2000 hours on Sundays and bank holidays.

The planner's report concludes by stating that the redevelopment of the Great Island power plant is considered to be a very important component in supporting the development of the Southeast Region, by ensuring continued energy generation. It would support the security of power supply essential for economic development and job creation. By comparison with the existing power plant, it would result in more efficient electricity generation and a reduction in emissions. The reuse of a brownfield site reduces the overall impact of the development on the environment and the landscape. It would ensure employment and retain the existing skills base in the area. Subject to the mitigation measures outlined in the EIS, the planning authority considers

that the development would comply with national, regional and local policies. It would accord with the proper planning and sustainable development of the area.

11.0 RESPONSE OF THE APPLICANT

The applicant has responded to the submission from Wexford County Council. Essentially the response is in agreement with the planning authority and indicates a willingness to comply with its recommended conditions. In relation to the contribution of €1m towards specific works consisting of road improvements, it is pointed out that the applicant is in continuing discussions with the planning authority relating to the extent of improvement works which would be required. The applicant is committed to making a contribution in relation to roads, but the final figure would be dependent on the outcome of these discussions and might be reduced.

12.0 PRESCRIBED BODY SUBMISSIONS

As noted at the commencement of this report, eight prescribed body submissions were received by the Board in connection with this application. These are summarised under the names of these prescribed bodies, as follows.

The Environmental Protection Agency

The submission notes that the proposed combined activities would require either a new licence or a review of the IPPC licence under part IV of the Environmental Protection Agency Acts, 1992 – 2007. Section 83(5) of the EPA Acts is quoted, whereunder the Agency is precluded from issuing a licence, unless it is satisfied that the terms of eleven specified requirements are complied with. The assessment by the agency and any decision on a licence would concern itself with emissions management (prevention, control, abatement, limitation) and the application of Best Available Technology.

The National Roads Authority

The Authority notes that the proposed development does not directly impact on the national road network. It thus has no comments to make on the proposal.

The Irish Aviation Authority

The Authority has no observations on the current proposals. However, in the event of the proposed stacks exceeding 90 metres, it should be consulted again. Waterford Regional Airport should be consulted prior to the use of any tall cranes in the construction of the development.

The Railway Safety Commission

The Commission asks that it be advised of the Board's decision on the application. The developer should make appropriate staff aware of the procedure in the event of a bridge strike. Works which might affect the safe operation of the railway should be undertaken in consultation with Iarnród Éireann and in accordance with RSC Guideline RSC-G-010-A. The plant operator should liaise with Iarnród Éireann if there is a possibility of particle or gas emissions affecting the safe running of the roadway.

The Health and Safety Authority

The authority notes that its approach to land use planning is set out in its document (Policy and Approach of the Health and Safety Authority to COMAH Risk-based land use planning) of September 2009.

The present application is covered by Regulation 27(1) of the European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, 2006. The development constitutes a new establishment. The siting criteria for new establishments have been met. Accordingly the authority **DOES NOT ADVISE AGAINST** the granting of planning permission in the context of major accident hazards.

The authority would bring to the attention of the planning authority the need to consult with its emergency services on any potential impact on local access/egress arrangements in the context of public behaviour in the event of an emergency and access for emergency services.

Although the risks are considered sufficiently low, there is the possibility of a major accident to the marine environment from a catastrophic failure of a storage tank. Even less likely is the possibility of a fire in the bund resulting from serious tank failure.

The authority's advice is based on the application, as lodged, changes to the substances to be contained within the oil storage tanks or their location could alter the advice of the Health and Safety Authority.

The Southern Regional Fisheries Board

The board advises that the essential issue from its perspective is that the inland fisheries resource should not be adversely impacted as a result of the proposed development. An assessment should be undertaken and a system put in place to deter fish entering the water intake in advance of the operation of the new plant.

The Department of Transport

The Department advises that in order to accommodate the considerable construction traffic some of the road network in the vicinity, particularly the R733 to Great Island may require widening and strengthening. Construction

routes should be confined to certain designated roads capable of taking the traffic and in an effort to protect the other local roads in the area, this should be agreed with the planning authority.

The Health Service Executive

Much of the report from the Health Service Executive is concerned with detailed requirements such as canteen facilities, drinking water, smoking shelters, etc.

The report notes that the area is one in which radon in buildings has been detected at over 20% above the reference level. It advises that radon levels should be ascertained in existing structures and monitored in the new buildings. Doing this at design stage would help if any modifications are required to the buildings. It is submitted that the presence of natural gas on site might have a cumulative effect when it arrives on site as it can also contain naturally occurring radioactive materials.

In the event of hidden asbestos being discovered during demolition, an alert procedure should exist and staff should be withdrawn until a full health and safety assessment has been conducted.

The submission notes that the potential for pollution risks to arise during construction are much greater than during the operational phase of the development. It is essential that the measures outlined in Section 13.5 of the EIS, on mitigation measures, are implemented in full. Despite best practice, it is possible that some contaminants would become bio-available and enter the groundwater and surface water streams and thus gain access to the estuary. Indirect effect of shellfish on human health has not been assessed adequately. Bottom culture, rather than raft culture, of shellfish is practiced in the estuary. It is noted that the sediment is a much better indicator of contaminants, rather than the water column in this instance. This does contain heavy metals and other contaminants, including those with toxic significance. The essential question is how much the mussels (the best indicator species) and other edible bivalves and shellfish would concentrate these and whether the concentrated level would pose a threat to public health. High levels of heavy metals were detected in shellfish and sediment from previous sampling of the estuary. A baseline should be established prior to commencement and quarterly samples taken of shellfish to monitor levels during construction and demolition. There is a possibility of a cumulative effect, if port development sanctioned further up river and the proposed development take place together. It is noted that the shellfish industry in the estuary has not been described, but is substantial and shellfish are harvested continually for local and national consumption and for export.

The Department of Environment, Heritage and Local Government

It is submitted that there is an over-reliance on desktop material in attempting to establish what impact may exist on architectural heritage. It appears that no attempt has been made to establish if there is any impact on the architectural

heritage of the locality. It is recommended that the Board should satisfy itself that there would be little or no impact on any structures of architectural heritage merit. This should include structures at a remove from the site, but which might be affected by activities related to the proposed development. As an example, improving local or access roads could have an impact on structures such as bridges, gateways and entrance screens or stone boundary walls which are either of architectural heritage merit in their own right or contribute to the character of the area. The visual and landscape impact on structures of architectural heritage merit in the locality should be taken into account and this should include the setting of any such structure and take into account views both to and from the structure and its setting.

On archaeology, it is felt that given the scale, extent and location of the development, it is possible that subsurface archaeological remains could be encountered during the construction phase, where ground disturbance is involved. Consequently, archaeological monitoring is recommended.

On nature conservation, it is stated that the Department is satisfied that the footprint of the proposed development does not pose a known significant threat to the Special Area of Conservation, SAC 002162 and natural heritage in the area.

13.0 RESPONSE OF THE APPLICANT

The applicant has responded to the submissions from the prescribed bodies. The responses are summarised in the same order as in the previous section.

The Environmental Protection Agency

The applicant has met with the EPA and has commenced the process for a review of the existing IPPC licence. A review is the appropriate approach as the existing licence is required for the operation of the existing plant, until it is decommissioned. The licence review documentation is currently in preparation.

The Irish Aviation Authority

The applicant confirms that the stack height is 60 metres and that it would consult with Waterford Regional Airport prior to the use of any tall cranes on site.

The National Roads Authority

The submission from the NRA is noted.

The Railway Safety Commission

Best Available Technology would be employed on leak prevention and detection with emergency shutdown valves, etc. Consequently it is not envisaged that there would be the potential for gas particle emissions which could affect the safe running of the railway. Both the RSC and Iarnród Éireann would be consulted when developing the Construction Environmental Management Plan and Emergency Response Procedures. There would be ongoing consultations with Iarnród Éireann.

The Health and Safety Authority

The applicant notes the position of the HSA that it does not advise against the granting of planning permission.

The Southern Regional Fisheries Board

The applicant is committed to working with the Board in modifying the current intake system to deter fish from entering the cooling water. A meeting has taken place and the likely outcome will be screening or other underwater deterrent systems.

The Department of Transport

In preplanning consultations with the local authority and in reply to a traffic assessment scoping report, the county council identified the parts of the road infrastructure which needed assessment in relation to traffic movements, capacity of junctions and road pavement strength. A preferred routing for construction traffic and a series of roads capable of taking the traffic has been identified. In the event of permission being granted, a Traffic Management Plan would be developed in consultation with all relevant parties and submitted for the approval of the roads authority.

The Department of the Environment, Heritage and Local Government

The applicant considers that the assessment of architectural heritage is robust and includes both desk based and field based assessments of the development site and access road. No development is planned outside of the areas identified and assessed in the EIS. An assessment of the visual impacts of the development on sites within a radius of 20 kilometres is provided in Chapter 16 of the EIS. Consideration was given to widening the bridge over the railway line in earlier drafts of the Archaeology, Architecture and Cultural Heritage chapter, but this was rejected on the basis that this would have a negative effect on the structure and the architectural heritage of the locality.

The applicant is prepared to undertake archaeological monitoring.

The applicant acknowledges the finding that the proposed development does not pose a known significant threat to Special Area of Conservation 002162.

The Health Service Executive

The applicant will undertake comprehensive radon monitoring on site during the construction phase and, if required, appropriate mitigation measures would be implemented in consultation with the Radiological Protection Institute of Ireland. A radon survey of the existing buildings was undertaken in 2005 and all results were below 300 Bq/m³, the recommended threshold for the consideration of the installation of remedial measures.

At Section 12.2 of the EIS, on marine ecology, commercially exploited shellfish is noted to be present within the estuary. Reference is made to bottom mussels and Pacific oyster. A Pollution Reduction Programme has yet to be established for the designated shellfish waters in the estuary. The dinoflagellates Pseudo-Nitzschia spp. and Alexandraium sp., which produce toxins and can cause paralytic shellfish poisoning and amnesic shellfish poisoning, were recorded in the estuary in June 2009 and observed in Arthurstown in February 2009. A bloom of algae producing these toxins would threaten shellfish exploitation. While ambient water temperature is a factor in algal blooms, nutrient pollution plays a greater part. The power plant cooling water would not introduce excess nutrients to the estuary and its heat would have a localised effect that would be rapidly dissipated by initial dilution, dispersion on tides, wind movement and radiation to the atmosphere. Direct or secondary impacts by contamination of water and marine habitats are unlikely during the construction phase. No cumulative impacts are anticipated from the development of Belview Port. It is understood that this development would not take place concurrently with the development

14.0 THE ORAL HEARING

An oral hearing was held in relation to this proposed development at the Brandon House Hotel, New Ross, County Wexford on 30th and 31st March 2010. A full transcript of this oral hearing is forwarded to the Board. Much of this transcript is based on oral presentations of written submissions to the hearing. These written submissions are also forwarded to the Board. The salient points which emerged during the oral hearing are included in my assessment.

An Taisce was the only party to appear at the oral hearing which had not already made a written submission. The submission from An Taisce included a review of the very considerable archaeological significance of the general area. An Taisce considered that the EIS failed to stress the importance of the area.

An Taisce expressed concern in relation to the growing reliance on natural gas in order to generate electricity. It pointed to the political instability of many of the sources of this natural gas supply. It asked whether the call for a mix of energy sources in the Energy Policy Framework document of 2007-2020 had not now been dangerously weighted towards an imported fuel with no guarantees on cost or continuity of supply.

An Taisce held that the grant of permission should be dependent on the prior grant of permission for the entire grid of pipelines to ensure that the plant could be run for the next 30 years and that the land to which such pipelines would run should be bought and paid for in advance. Road upgrading should be completed prior to the commencement of construction and the physical ability of the causeway to accommodate the construction traffic was questioned.

15.0 ASSESSMENT

I now consider this application under the relevant sub-headings, which follow.

The National Interest

Following the holding of three pre-application meetings between the Board and the then prospective applicant on 24th June 2009, 1st October 2009 and 28th October 2009, as well as a meeting with the planning authority, Wexford County Council on 9th October 2009, the Board served notice on the applicant, under Section 37B(4)(a) of the Planning and Development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006, that in its opinion, the proposed development fell within the scope of paragraphs 37A(2)(a) and (b) of the Act. Section 37A(2)(a) holds that a proposed development would, if carried out, be of strategic economic or social importance to the state or the region in which it would be situate. Section 37A(2)(b) holds that a proposed development would, if carried out, contribute substantially to the fulfilment of any of the objectives in the National Spatial Strategy or in any regional planning guidelines in force in respect of the area or areas in which it would be situate.

This opinion followed, chronologically, from a report from the Senior Planning Inspector involved in the pre-application discussions with the applicants. In her assessment, she held that having regard to the nature and scale of the proposed development, to the stated purpose of the 2006 Act, as set out in the long title of that Act, and to the general description of strategic infrastructure development set out in section 37A(2) and as defined in section 2(1) of the Planning and Development Act 2000, as amended, it is considered that the proposed development consisting of a Combined Cycle Gas Turbine power plant generating 430MW of electricity would fall within paragraphs (a) and (b) of section 37A (2) of the 2006 Act, as follows:

(a) the proposed development would be of strategic economic importance to the region and the state, providing a sustainable energy supply

(b) the proposed development would contribute substantially to the fulfilment of the objectives of the National Spatial Strategy by improving the reliability of electricity supply through improvements to the national grid and investment in power generation plant by the provision of a power plant which utilises the best available and most

efficient technology combined with the use of the existing industrial site, services and switchyard.

It is considered therefore that the proposed development constitutes strategic infrastructure development as defined in Section 37A (2) of the Planning and Development Act, 2000 as amended by the Planning and Development (Strategic Infrastructure) Act, 2006.

Section 2.3 of the Environmental Impact Statement, submitted with the application, comments on the need for the development. It notes that the modernisation of Great Island power plant and the introduction of the applicants into the Irish market would promote the strategy of competition in the energy market and would directly promote competitive energy prices. This, in turn, would result in a reduction in the cost of producing goods and services, increased competitiveness and improved prospects of attracting inward investment. The proposed development would result in the decommissioning or reduced use of less efficient generating technology, nationally. There is a *"merit order"* in terms of the different modes of electricity generation, with hydro and wind generation at the highest end of the merit order and distillate oil fuelled open cycle gas turbine generation at the lowest end. The proposed combined cycle gas turbine is shown to be at the more efficient end of the merit order, immediately after hydro and wind generation and combined heat and power.

The Environmental Impact Statement notes a letter from EirGrid to the Commission for Energy Regulation in which it referred to studies which it had carried out as to the effect on the network, should there be a plant closure and no replacement at Great Island. These show that significant problems would arise in the southeast of the country which could only be overcome through large scale reinforcement in the area. Additional generation in the area, although likely in itself to cause some need for reinforcement, was felt likely to alleviate a portion of the reinforcement needs in the southeast and reduce the overall needs in the area.

The Government white paper *"Delivering a Sustainable Energy Future for Ireland (Energy Policy Framework 2007-2010)"* highlighted the need for substantial new investment in conventional power generation in the order of at least 1,000 megawatts to 2,013 to meet demand growth and the planned closure of older plants. There would be a progressive reduction in the carbon intensity of electricity production through greater penetration of renewable energy, co-firing with bio-mass and the planned replacement of older generation plant with modern efficient power generation, in which gas fired power stations would continue to play a key role. Even though there may be up to 6,000 megawatts of non-fully dispatchable wind capacity installed on the national grid by 2020, a considerable amount of fully dispatchable conventional thermal generating plant would also be required. The new Great Island power plant would meet part of this requirement. It is essential that there be a sufficient number of reliable CCGT units on the grid to increase efficiency of the overall system, reduce the impact on the environment and reduce the cost of energy to the end user.

The applicant set key criteria to acquire regulated brownfield sites with a history of environmental compliance, suited to continued use, consistent with their established use as power generation facilities. The benefits of repowering existing brownfield generation sites is recognised by the Commission for Energy Regulation in their Gate 3 proposed offer paper *"Proposed Direction on Conventional Offer Issuance Criteria"*. This held that "*the environmental and public interest benefits from repowering an existing brownfield site, as opposed to developing a new greenfield site, must be taken into account by the Commission in light of its statutory duties. The transferability of existing capacity at Great Island and Tarbert is also consistent with the encouragement of the efficient use of production of electricity by the Commission. As Endesa's connections at Great Island and Tarbert are not greenfield connections, connection of the proposed new stations current capacity would not result in significant additional network capacity requirements, as the necessary infrastructure for the current capacity rights is already in situ"*. Part of the formal legal agreement of the Asset Strategy Agreement, under which the ESB was required to divest generating sites to other providers, including Great Island, directed the ESB to sell sites with export capacity.

"*The Sale Sites shall each have Export Capacity and such capacity shall be subject to the final approval of the Commission, therefore reducing the requirement for additional overhead lines*".

The Environmental Impact Statement notes that in terms of grid integrity and maintaining a grid that supports the needs and demand of the country, it is important that proposed power generation is located in an area where the national grid can accommodate such connection and a location that reinforces areas of the grid that are deemed to require such reinforcement. The EirGrid Transmission Forecast Statement, 2008-2014 indicated that in 2013, between 250 megawatts and 400 megawatts of generation could be accommodated at Arklow, in County Wicklow, Cashla in County Galway and at Great Island. The statement carried out an "Incremental Transfer Capability" analysis at fourteen 220kV stations and one 400kV station throughout the country. The transfer capability results for Great Island in 2010 were

- Dublin – over 400 MW
- Northern Ireland - less than 100 MW
- South – more than 400 MW
- West – more than 400 MW

For 2013, the transfer capability results lay between 250 and 400 MW for all four areas.

A letter between EirGrid and the Commission for Energy Regulation entitled *"EirGrid Input to ESB Asset Strategy"*, advised the Commission that Great Island was likely to be a good location on the network to connect a new base load generating station. There would be between 250 and 400 MW of available generating capacity for connection at Great Island.

The EIS notes the availability of infrastructure at Great Island, most specifically the existing cooling water intake on the Barrow Estuary, the current IPPC Licence P0606-02, under which there is an established record of compliance, process water reservoir, distillate storage, administration building, etc., the fact that the site is brownfield and would not require the acquisition or permanent development of a new greenfield site and the availability of the necessary transmission infrastructure, without any requirement for works to upgrade the transmission infrastructure in the area.

I consider that the information included in the Environmental Impact Statement, as augmented by the information provided at the oral hearing, further confirms the view, already expressed by the Board, at the conclusion of the pre-application process, that the proposed development constitutes strategic infrastructure within the meaning of Section 37(a) of the Planning and Development Act, 2000, as amended. Furthermore, I consider that the applicants have established that there is a need for the development and that the site at Great Island, County Wexford, is an appropriate location for such a development.

The Project

Chapter 3 of the Environmental Impact Statement is entitled "Description of the Development". Section 3.3 refers to the demolition of the existing powerplant. It is stated that the applicant would apply for planning permission to Wexford County Council for the demolition of the existing generation plant within 6 months of decommissioning of the existing powerplant. The application would be accompanied by *an environmental assessment*, as required by the planning authority and relevant stakeholders (my emphasis). The EIS notes that under the terms of the approved IPPC licence for the existing facilities, following the termination or planned cessation for a greater period than 12 months of use or involvement of all or part of the site in the licensed activity, the applicant is obliged to decommission, render safe or remove any soil, sub-soils, buildings, plant or equipment, or any waste materials or substances or other matter contained therein or thereon, *that may result in environmental pollution* (my emphasis). Possibly as a result of being advised to do so during the pre-application phase of the proposal, the intention to apply, separately, to Wexford County Council for the demolition of the existing plant within 6 months of decommissioning has been adverted to in the public notices.

At the first pre-application meeting in connection with the development, the Board queried whether the demolition and removal of the existing plant and the reinstatement of its site thereafter would form part of the planning application. The applicant indicated that this would take place under a separate planning application. The Board then advised that the demolition and removal of the existing plant might need to be included in a single application including the new plant or, failing this, in a timeframe which would ensure early completion of the total construction and demolition. Again, at the second pre-application meeting, the Board queried whether the demolition of

the existing plant would form part of the intended planning application. Again, it was indicated that it would be a separate application. The separation of the two elements of the overall development into two applications was mentioned at a meeting between the Board and the planning authority during the pre-application phase. The Board explained that the demolition would, in all likelihood, become an application for permission to the planning authority, as it would not constitute strategic infrastructure. The planning authority's prime reaction in this regard, was to observe that a considerable volume of waste would arise from the demolition process.

Section 3.3 of the Environmental Impact Statement notes that while the applicant is not seeking planning permission for demolition of the existing units as part of the present planning application, following consultations with members of the local community, it was considered that the provision of additional information, in support of the approved Residuals Management Plan, would be of benefit in informing local stakeholders of the potential environmental effects associated with demolition of the existing units and proposed mitigation measures that are considered appropriate at this stage of the process. This assessment, which includes cumulative effects, where predicted, is provided in Appendix 3.2 (a Preliminary Demolition Environmental Assessment) and includes a brief overview of environmental considerations, only. The EIS points out that it is not possible to undertake a comprehensive assessment of all environmental factors at this stage for four reasons as follows:-

- A detailed programme for demolition of the existing units would require agreement between the Commission for Energy Regulation, ESB Networks/EirGrid and the applicant.

- The existing turbine hall contains certain network assets (i.e. control and protection equipment for the 110kV and 210kV compounds) which are controlled by EirGrid. The scheduling for decommissioning and demolition of the building would therefore require agreement between EirGrid and the applicant.

- Demolition of the existing units would require careful consideration of the environmental and engineering considerations associated with such demolition in proximity to the proposed combined cycle gas turbine which would be fully operational during the demolition phase.

- It is not possible to comprehensively identify all the elements of the existing development as this would require destructive testing on the current available and operational equipment and sub-ground level investigation under the existing units.

In my view, of the four reasons mentioned in the preceding paragraph, only the fourth reason has any real credibility in terms of not including the demolition of the existing plant as part of the present application. Even this reason could have been overcome by assuming the worst and

presenting a worst case scenario in a single application for the construction of the new plant and demolition of the existing plant.

The rationale behind the seeking of planning permission, separately, for the demolition of the existing power plant was flagged as an issue in an agenda circulated by the Board prior to the holding of the oral hearing in connection with this application. In an opening submission at the oral hearing, counsel for the applicant stated that there is no legal impediment to the applications for construction of the new plant and demolition of the old (or the gas pipeline development) being dealt with separately. He pointed to the commitment of the applicant, in the EIS to submitting a planning application in respect of the demolition within 6 months of the new plant being commissioned. He then referred to the provisions of Article 4 of the Planning and Development Regulations, 2008 (amending Article 92 of the 2001 Regulations) which provides that demolition associated with any development which requires an EIS, is itself development and that the application for such demolition must be accompanied by an EIS.

I consider it would have been preferable to have applied for the new power station and the demolition of the existing power station as a single project, the subject of a single planning application. Such an approach would have given a greater degree of certainty as to the ultimate future of the site in terms of electricity generation. During the course of the opening submission at the oral hearing, it was pointed out that only once successful decommissioning has been completed can the demolition of the existing plant be undertaken. Thus the intended demolition of the existing plant would not take place for some period of time. It was submitted that any detailed assessment of that demolition would run the real risk of being out of date by the time the demolition actually took place at that future date. It is unclear to me as to whether or not this reflects a concern that the normal five year duration of the planning period would be insufficient to complete the development. If this is the case, it would have been open to the applicant to seek a longer duration for the permission.

Despite the foregoing, I consider that it is in order and acceptable for the Board to consider this application in isolation from the subsequent demolition. I take this view for two reasons. Firstly the demolition of the existing power plant is not strictly necessary for the construction of the new powerplant. The two powerplants could, physically, exist side by side, albeit that they could not operate in tandem. Secondly the issue of project splitting does not arise. While the terms of the current IPPC licence obliges the applicant, on termination of the existing plant to decommission, render safe or remove any items which may result in environmental pollution, only, it is clearly the applicant's intention to clear those parts of the existing power station which would no longer be required, even though the retention of some of these, e.g. the shell of the turbine building and the chimneys might not result in environmental pollution. The opening submission at the oral hearing associates the demolition with the construction of the power plant which is the subject

of the present application. The *"environmental assessment"* referred to in Section 3.3 of the EIS as accompanying the proposed separate application for demolition would, as clarified in the opening submission, result in the submission of a full Environmental Impact Statement with the planning application for demolition. As noted in the opening submission, the intention is not to circumvent the requirements of the EIA Directives (or Regulations) by splitting the overall project, which would require the submission of an EIS, into smaller parts, which, by reason of their smaller, sub-threshold, scale would not require the submission of environmental impact statements, individually.

Apart from the above reasons, I note the inclusion at Appendix 3 of the Environmental Impact Statement of the Residuals Management Plan which has been approved by the Environmental Protection Agency under the IPPC licence and a Preliminary Demolition Environmental Assessment, including a detailed traffic and transport assessment. Overall, although the application for the demolition of the existing power plant remains to be finalised, a considerable amount of information has been submitted which allows the public to assess, at least in a preliminary manner, the successive impacts of the construction and demolition.

(Class 50 of part 1 of schedule 2 of the Planning and Development Regulations, 2001 (in general) exempts the demolition of a building or other structure from the need for planning permission. This was amended by the Planning and Development Regulations, 2008. Class 50 is substituted by class 50(a). This introduced conditions and limitations, one of which stipulates that no such demolition should facilitate development prescribed for the purposes of section 176 of the Act (i.e. a development requiring the submission of an environmental impact statement). However as the demolition does not facilitate the new powerplant, it does not require planning permission on this basis).

Noise and Vibration

Chapter 11 of the EIS, on human beings – noise and vibration, notes that power plants are not considered to be a likely source of operational vibration which could give rise to nuisance or damaged properties. It is unlikely that any construction activity could cause vibration impact at the nearest sensitive receptor, which is 450 metres from the construction area. Impacts from pile driving are typically not detected at distances greater than 100 metres. Accordingly, vibration is scoped out of the impact assessment.

Three noise monitoring locations were established, two of these were adjacent to the shoreline at Cheekpoint and the third was located at the nearest noise sensitive residence, approximately 450 metres north of the application site. During the construction phase, noise impact magnitudes are considered to be low, medium, or high, in the event that the permanent change is greater than 3dB, 5dB or 10dB, respectively. The construction phase of the development is broken down into three sub-phases, namely site clearance, consisting of site

clearance and grading, civil works, consisting of excavation, piling and pouring of foundations and plant installation, consisting of backfilling, excavation and structural steelwork. The highest L_{Aeq} noise levels would occur during the site clearance and civil works sub-phases when noise levels would reach 50dB at two noise sensitive residences near the shoreline at Cheekpoint. Accordingly, no exceedance of the day time or evening time construction noise assessment criteria (L_{Aeq}, $_T$70dB and 60dB) is predicted.

Noise due to construction traffic, during the peak periods of 07.00 to 08.00 and 20.00 to 21.00 would increase by more than 5dB(A). The worst case scenario (400 vehicles) was modelled for the evening period. Indicative modelling demonstrated that the NRA noise criteria of 60dB(A) L_{Aeq}, one hour would be exceeded for six months of the construction phase. The exceedance would, at most, be 3dBL_{Aeq}. Having regard to this maximum exceedance and the exceedance period of just six months, the impact is considered to be low.

During the operational phase of the proposed development, the existing background night time levels at the five noise sensitive residences would rise from 43dB to a maximum of 45dB. This does not exceed the normal 45dB(A) limit applied to night time activities. Traffic levels associated with the operation of the power plant are predicted to decrease marginally, so that a positive, though imperceptible, impact would be experienced.

In terms of mitigation, the normal restrictions on construction procedures and machinery would be applied during the construction phase. These would include:

- The use of plant in an appropriate manner with respect to minimising noise emissions.
- The selection of inherently quiet plant.
- The use of local screening wherever practical and/or considered necessary to achieve the construction noise target.
- The location of noisy plant as far as possible from sensitive receptors.
- Requiring construction workers to adhere to British Standard BS5228.
- Requiring construction contractors to comply with the requirements of the European Communitees (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1988, as amended, and the Safety, Health and Welfare at Work (Control of Noise at Work) Regulations 2006.
- The adoption of notification procedures to notify residents of particularly noisy activities, and
- Seeking to minimise the potential impacts from construction traffic through the adoption of reduced speed limits, car pooling, bus transfers or commitment to agreed driving behaviour on local roads.

During the operational phase, the noise limits as applied under the current IPPC licence would be applied, namely an L_{Aeq}, 30 min of 55dB(A) free-field by day and an L_{Aeq} 30 min of 45dB(A) free-field by night.

During the course of the oral hearing, there was continued concern in relation to noise and vibration. Residents of Cheekpoint expressed concern that noise

would be transmitted across the water surface of the Barrow/Suir Estuary and that it would also be reflected off the backdrop of the higher ground to the rear of the development site. One of the local residents noted that even the present operational phase of the existing power station has resulted in the reversing alarms of vehicles manoeuvring on site being audible in Cheekpoint for sustained periods of up to three minutes. The applicant responded that it was satisfied that noise could be restricted to acceptable levels, as specified in the Environment Impact Statement.

I consider that from the point of view of noise and vibration, the construction phase of the proposed development is likely to take place within acceptable limits. The distance of the nearest sensitive location means that vibration from the greatest vibration generator during this phase, i.e. pile driving, is unlikely to be noticeable. Noise would be within acceptable limits during the construction phase, but this is not to say that noise either from the construction process itself or from construction traffic would not be heard either in Cheekpoint or in the houses at Great Island. The applicant accepted that sudden or unusual noises would be more noticeable from the general background noises of either an operating power station or construction. The alleged duration of reversing alarms, if true, seems excessive. However, it should be possible to minimise the incidence of reversing movements and the resulting alarms.

During the operational phase of the proposed development noise seems to be less likely to be an issue. The predicted rise in night time levels at the five noise sensitive residences from 43 dB to a maximum 45 dB a maximum rise of 2 dB would be scarcely noticeable. The applicant expresses confidence in its ability to adhere to the limits applied under the current IPPC licence.

Atmospheric Emissions

Chapter 15 of the EIS, on air quality and climate, identifies dust as the main source of concern during the construction phase. Anticipated phasing of works is given as follows:-

- Civil – 12 months
- Mechanical and electrical and – 15 months
- Testing and commissioning – 3 months.

It is noted that the main demolition of the existing plant would be applied for under a separate planning permission. Site clearance and ground works would be minimal as the site is an existing operating power generation plant and the topography is relatively level. Nevertheless, dust potential during site clearance and ground works is high arising from earth moving, excavation, demolition, crushing, transported materials and re-suspension of dust. It is noted that research shows that the effects from construction activities that generate dust are generally limited to within 150-200 metres of the

construction site boundary. As there are no sensitive human receptors within 200 metres of the proposed development site, receptor sensitivity is considered to be low and the construction phase is concluded to represent an overall minor risk of causing dust effects. In order to control potential effects from dust raising activities, a Construction Environmental Management Plan would be put in place. The site boundary would be clearly marked with high visibility tape and the contractor would not be permitted to use any areas outside this boundary for any activity related to construction. Exhaust emissions from vehicles and machinery during the construction phase are considered likely to have a negligible effect on local air quality. Nevertheless, normal best practice would be followed, including switching off engines when not in use.

In relation to the operational phase of the proposed development, the key pollutants from the gas turbine exhaust are identified as oxides of nitrogen, sulphur dioxide (when running on distillate oil) and particulates. 90-95% of the oxides of nitrogen emitted in the gas turbine emerge in the form of nitrogen monoxide (NO). On emission, this gradually oxidises to nitrogen dioxide (NO_2) by reaction with ozone and other chemicals in the air. The output of nitrogen oxides depends principally on the combustion temperature, the geometry of the combustion chamber and the ratio of fuel to combustion air. Two scenarios are considered, namely, operation at full load on natural gas and operation at full load on distillate oil. Dispersion modelling was carried out using the ADMS (Atmospheric Dispersion Modelling System) Version 4.1. Tables 15.11 and 15.12 show the significance of impacts when running on natural gas and distillate oil, respectively. In the case of the former, the Process Contributions in terms of NO_2, PM_{10} and $PM_{2.5}$ were variously found to be of negligible or slightly adverse significance. In the case of the latter, Process Contributions to NO_2, SO_2 and PM_{10} were found to have a slightly adverse significance.

An ecological assessment was carried out in relation to ecological sites within 20 kilometres of the application site. 28 such sites are listed in Table 15.13 and shown on Figure 15.3. The maximum modelled increase in annual mean NO_x concentrations at ecological sites within the 20 kilometre distance was at the Lower River Suir, a Special Area of Conservation, where it is predicted that the concentration would be at 2.9% of the air quality standard. As all the remaining process contributions at the other sites would be well below 1% of the air quality standard, the EIS concludes that the effects on designated sites would be negligible. Maximum predicted acid deposition contributions at the designated sites are shown in Table 15.14.

This chapter concludes that all process contributions are less than 1% of the relevant Environmental Quality Standards, except at the Lower River Suir. However, total NO_x concentrations and nitrogen deposition rates (including background concentrations at the Lower River Suir) remain well below the relevant criteria and hence are not regarded as significant in air quality terms. In terms of mitigation during the operational phase, it is noted that the exhaust stack height of 60 metres has been proposed to ensure effective dispersion of emissions by overcoming local building wake effects. Low NO_x technology

would be employed comprising dry-low NO_x burners for use during gas firing and water injection when firing on distillate fuel oil.

The submission at the oral hearing elaborated on certain elements contained in the Environmental Impact Statement. It was identified that the construction phase could give rise to a minor risk that the proposed development would cause significant dust effects if mitigation measures were not employed. Appropriate mitigation measures are proposed in relation to site planning, construction traffic, demolition works (for the limited demolition necessary for the construction) and site activities. Measures such as the use of hard surfaced haul routes, dust suppression and washing of vehicles would be implemented as part of the Construction Environmental Management Plan.

During the course of the oral hearing, the applicant reiterated its response in relation to the correctness of its choice of stack height. Noting the fact that the proposed stack height was much lower than the existing stacks and the difficulties which had been encountered with a stack of inadequate height at the nearby SmartPly timber sheeting processing plant in Belview Port, an observer expressed concern that the proposed stack height might turn out to be too low. In response, the applicant noted that modelling had been carried out to compare ground level pollutant concentrations at a range of stack heights from 40 metres to 100 metres. The results indicated that the dispersion of pollutants was not significantly affected at stack heights above 60 metres. The applicant could not comment on the method used to determine the stack heights for the existing plant, but a lower height was appropriate in the present case, primarily because the plant would meet more stringent pollutant emission limits and because the nearby buildings would be smaller.

One of the observers noted that with the current stacks smoke rises and dissipates when the wind is from a southerly or southwesterly direction. However, this is not the case when the wind is from a northerly or northwesterly direction. It then comes down, immediately on leaving the stacks, both in the case of the existing power plant and SmartPly. The applicant explained that the temperature of the exhaust gases emerging from the Great Island Plant would be very hot and that a much greater volume of gases would pass through the stack than is the case with SmartPly. (Table 15.8 of the EIS shows a volumetric flow of 765.7 cubic metres per second, an efflux temperature of 89.9 degrees centigrade and an efflux velocity of 27.1 metres per second (98 kph) at the top of the stack when running on natural gas and a volumetric flow of 829.8 cubic metres per second, an efflux temperature of 102.7 degrees centigrade and an efflux velocity of 29.3 metres per second (105 kph) when running on distillate oil). On exiting the stack, the exhaust gases would shoot upwards very quickly. As they would be very hot, they would naturally rise.

In my view, the methodology, mitigation measures and Construction Environmental Management Plan should be sufficient to ensure that dust and exhaust emissions are kept to an acceptable level during the construction phase. While the emissions during the operational phase of the proposed development would be controlled by the Environment

Protection Agency under the IPPC licensing regime, there is nothing to indicate that these are likely to be problematic.

The Risk of Water Pollution

Chapter 13 of the EIS, on soils, geology and groundwater notes the investigation of the overall site for contamination, through the drilling of boreholes, the taking of hand augered samples, the excavation of shallow trial pits and sediment sampling from the foreshore areas to the west of the former landfill cells and the west of the station grounds. Polycyclic aromatic hydrocarbon exceedences were identified adjacent to the proposed development area along the southern boundary of the site. Coliforms were detected in the groundwater and surface water at the site. The applicant's environmental consultants concluded that, based on existing data, no remedial action would be necessary at the site, assuming a continued industrial land use. However, further assessment would be required in some areas to confirm this conclusion, including areas where intrusive investigation was not possible due to the current operations on the site.

Groundwater was encountered in each of the wells drilled in the lower tier of the site at between 7 and 17 metres below ground level. Groundwater was inferred to flow in a south to southeastward direction beneath the southern portion of the site towards the estuary. A regionally important aquifer lies beneath the site. There is just one recorded groundwater abstraction point within approximately 3 kilometres of the site. This is for domestic supply and is 2.7 metres to the southwest of the site, across the estuary.

The Water Framework Directive has, as a key objective, a requirement that all water bodies in Member States should achieve or retain good status by 2015. In 2005, all water bodies were assessed and given a score based on the likelihood of them achieving this environmental objective. Potential scores were classified under four categories designated 1(a), 1(b), 2(a) and 2(b). The groundwater in the site area was classified as 2(a), i.e. a water body expected to meet good status in 2015, pending further investigation.

The EIS assesses the potential for contamination. On the basis of the contaminative use of the site for a period of over 25 years, the presence of underground storage tanks and information from available data, the risk of a source being present is considered to be high. As the groundwater is likely to be in continuity with the surface water body, the Barrow Estuary, the risk of a pathway being present is considered to be very high. The receptor, i.e. the estuary, is currently reported to be unpolluted and, being adjacent to the site, has a very high rating. The severity category can only be estimated, but given the contamination in the area, it is likely to be moderate (i.e. a long term chronic risk) to severe (an acute/short term risk and/or serious harm likely).

Potential impacts during the construction phase and operational phase are identified. Mitigation measures in relation to flora and fauna (Chapter 12) and surface water (Chapter 14) are also applicable to soils, geology and groundwater and would be applied. In addition, mitigation measures that

would be implemented specifically for the protection of soils, sediment and groundwater are listed at Section 13.5.1 on construction and 13.5.2 on operation. Much of this can be regarded as best practice. A Spoil Management Plan and a Contamination Management Plan would be developed during the detailed design phase as part of a wider Construction Environmental Management Plan. A summary of residual impacts is given at Section 13.7.

Under "Summary Conclusions", at Section 13.8, it is noted that the principal source of construction impacts would be removal of soils and sediment, contamination mobilisation, contamination of groundwater and settlement. The removal of contaminated soils and sediment would be a positive impact as contamination sources would be removed. Mitigation measures would involve the reuse of materials, where possible, a Waste Management Plan and appropriate materials storage areas. In general, residual impacts would be low to not significant. The principal source of operational impacts is noted to be degradation of below ground structures by ground conditions. The residual impacts in this regard, once mitigation measures are implemented, would be low to not significant.

During the course of the oral hearing, the applicant reiterated its response in relation to concerns raised by the Cheekpoint Community Alliance in relation to the *"capped dumping facility"*. At the oral hearing, the applicant stated that it should be noted that the waste area would not be impacted by any construction activities related to the proposed new development and, as such, there would be no change in status to the IPPC licence which controls environmental activities in this particular area of the site. Responding to questions in relation to the cells, the applicant clarified that the cells are not lined but are capped to stop the percolation of surface waters down through them (Oral hearing, Day 1, Page 238). Noting, again, that the cells would not be impinged upon by the proposed development, it was explained that that section of the landholding would be part of the current IPPC licence and would require monitoring under the terms of the licence. The EPA have had no issues, to date, in relation to the cells and the capping was done in conjunction with and with the authorisation and agreement of the EPA. There is no intention to interfere with these cells during the subsequent demolition of the existing power plant.

Chapter 14 of the EIS, on surface water, notes that water for use in the heat recovery steam generator would be demineralised in an on-site water treatment plant. Wastewater from the demineralisation plant would comprise water containing the salts removed from the raw water, i.e. water from the on-site reservoir, which, in turn, is fed with treated water from the Wexford County Council water supply. It would also contain neutralised backwash from the resins from the demineralisation process.

There would be four categories of wastewater streams, namely, process wastewater, surface water runoff, treated foul water (from sanitary facilities, washrooms, mess rooms, etc.) and cooling water. The process wastewater, consisting of water from the demineralisation plant and boiler blow down,

would contain levels of salt too high for the heat recovery steam generator, but would generally be lower than the original "raw" feed water. This water would collect in a process water discharge pit where it would be dosed with sulphuric acid or sodium hydroxide, to achieve a pH of 6-9 prior to discharge. Surface water runoff would pass through a silt trap and bypass oil interceptor, prior to discharge. Foul wastewater would be treated in a new proprietary secondary treatment system, prior to discharge. Cooling water would be abstracted from and discharged to the Barrow Estuary using the existing intake and outfall systems, but the volume would be greatly reduced.

The conclusion, in relation to surface water, is that effluent discharges from the site would be of a similar composition to those from the existing plant, but the volumes would be significantly reduced. Consequently, it is considered that the proposed development would not have a significant adverse impact on the receiving environment, by comparison with the existing situation. The implementation of mitigation measures during the construction phase would ensure that the impact of the proposed development on water resources would not be significant.

The EIS (Section 14.2.4) notes the adoption of *Directive 2000/60/EEC (The Water Framework Directive) by the European Parliament and Council in 2000.* This establishes a legal framework for the protection, improvement and sustainable management of the inland surface waters, transitional waters, coastal waters and groundwater. The aim is prevent the deterioration in the existing status of water (including the maintenance of "High Status" where it exists and to ensure that all waters, with some limited exceptions, achieve at least "Good Status" by 2015. The Water Framework Directive has been transposed into Irish Law. The European Communities Environmental Objectives (Surface Waters) Regulations, 2009, sets standards for biological quality elements and physico-chemical conditions and support biological elements which must be complied with. These parameters establish the ecological status of a waterbody. The chemical status of a waterbody is assessed based on thresholds set for certain chemical pollutants, known as priority and priority hazardous substances. A waterbody must achieve both good ecological status and good chemical status, before it can be considered to be at good status.

In Ireland, a Q-Rating system has been used to assess the sensitivities, abundance and diversity of macro-invertebrates and their relation to water quality. The Q-Rating system measures the effects of pollution by condensing biological information to a readily understandable form by means of a five point biotic index (Q values). A Q value of Q5 indicates that conditions are close to reference conditions and a Q value of Q1 indicates the presence of serious pollution. Table 14.1 of the EIS equates the Q value rating system with the Water Framework Directive Status, with Q5 and Q4 – 5, being high status, Q4 being good status, Q3 – 4 being moderate status, Q3 and Q2 – 3 being poor status and Q1 and Q2 being bad status. The Barrow/Suir, Nore Estuary is noted to be classified as a Transitional Water Body with the interim classification of Moderate Status. It is within the South Eastern River Basin District. The water body passed the Specific Pollutants Criteria set out in

Annex VIII of the Water Framework Directive, but failed in relation to Chemical Status as set out in Annex X. The IPPC Point Risk Sources and Wastewater Treatment Plant Point Risk Sources were classified as 1a At-Risk. The overall objective for the Barrow/Suir Nore Estuary is to restore it to good status by 2015. The Water Framework Directive categorisation incorporates the discharges from the existing power plant which has an established record of compliance. The EIS (Section 14.6.2) notes that the Water Framework Directive categorisation was defaulted to Moderate Status due to failures in the chemical status category, only, specifically Brominated Diphenyl Ethers, Mercury, Benzo/indeno-pyrenes, Endosulfan and Pentachlorobenzene. It is noted that there are no known discharges from the proposed development which would introduce these elements into the receiving environment and it is not considered that the proposed discharges would, in any way, cause deterioration in categorisation status for the estuary. Table 14.8 of the EIS shows a marked reduction in effluent discharges, by comparison with the existing power plant. Boiler blow-down would reduce from 17.36 cubic metres per hour to 6.55 cubic metres per hour. Condenser cooling water discharge would reduce from 50,170 cubic metres per hour to 25,000 cubic metres per hour.

During the course of the oral hearing, (Day 1, Page 235) one of the observers queried whether a possible invasion of non-native zebra mussels into the estuary was taken into account in the applicant's worst case scenario with regard to biocides in the cooling water. In response, it was felt that the existing biocide regime might be sufficient as it was already an effective deterrent to native mussels. It was subsequently explained (Day 1, Page 251) that zebra mussels are a freshwater species. The estuary is a largely marine environment and zebra mussels are intolerant of brackish waters, so the issue should not arise.

In my view, there is every indication that the proposed development, both during its construction phase and its operational phase will not pose an undue risk of water pollution. The mitigation measures proposed during the construction phase (EIS page 14-16) which may be characterised as prudent best practice should minimise the risk of run-off to the estuary. The operational phase of the proposed development would be subject to an IPPC Licence and would be the responsibility of the Environmental Protection Agency. During the operational phase, the proposed development would not contribute any of the chemicals which have caused the Water Framework Directive Categorisation to be defaulted to Moderate Status. Both the boiler blow-down and the cooling water discharges would be substantially reduced, i.e. more than halved.

Acceptability on Environmental Grounds

The first schedule of the Environmental Protection Agency Act, 1992, as amended by the Protection of the Environment Act, 2003 specifies those developments which require an Integrated Pollution Prevention Control (IPPC) licence from the Environmental Protection Agency. Under the heading "2 Energy", Item 2.1 specifies the operation of combustion installations with a

rated thermal input equal to or greater than 50MW. The proposed development thus requires an IPPC licence. This requirement is specified in the public notices relating to the application. The requirement for such a licence means that should it decide to grant permission, the Board is precluded under Section 37(G)(4) of the Planning and Development Act, 2000, as amended by the Strategic Infrastructure Act, 2006, from imposing conditions controlling emissions from the activity or controlling emissions relating to or following the cessation or operation of the activity. However, it is open to the Board to refuse permission if it considers the development unacceptable on environmental grounds, notwithstanding the licensing of the activity, having regard to the proper planning and sustainable development of the area in which the development would be situated. **Having regard to the previous three sections of this assessment, I do not consider that there is any basis to conclude that the proposed development would be unacceptable on environmental grounds.**

The Board should note that the applicant indicated its awareness that there were circumstances in which the Board had required the obtaining of an IPPC Licence prior to commencement of development. (Condition 4 of the permission for the 350MW CCGT Power Station at Lumcloon, County Offaly under 19.PA0015 appears to be the most recent example of such imposition). It submitted that such an obligation would be wholly unnecessary and inappropriate in this case. The delays in the construction programme which would arise in the event of such an unnecessary requirement being imposed was held to be wholly disproportionate and inconvenient and for no useful purpose (Oral Hearing, Day 1, Page 24). Having regard to the previous paragraph and the previous three sections of this assessment, should the Board decide to grant permission for this development, I do not recommend the imposition of such a condition.

Traffic

Chapter 10 of the EIS, on traffic, states that traffic counts were undertaken between the hours of 07.00 and 10.00 and 16.00 and 19.00 on Tuesday 8th September 2009, a date on which the National School at Ballinamona was open. Three locations were chosen, namely the junctions of the R773 and R683 at Arthurstown (Junction 1), the junction of the R733 and the local road serving the site (Junction 2) and the junction of the R733 and the R734 at Balinteskin (Junction 3). The local road serving the site runs for a distance of 5 kilometres and varies in carriageway width from 4 to 5 metres. It has a tight bend at Fisherstown. It reduces in width to approximately 3.5 metres for a distance of 400 metres along the "causeway". The latter is essentially a viaduct which historically formed a linkage between Great Island and the mainland prior to the silting over of the Barrow River basin. The computer modelling programme PICADY was used to assess the performance of the three junctions. At Junctions 1 and 2, maximum flows occurred during the evening peak, while at Junction 3, it occurred during the morning peak. Ratios of Flow to Capacity (RFC) were recorded at 8.7%, 10.1% and 26.8%, respectively.

During the construction phase, it is anticipated that there would be a maximum of 500 construction workers on site at any one time. There would be 20 heavy vehicle deliveries to the site during the day. Abnormal loads would be brought in by sea. Construction workers would arrive and leave by car with an average occupancy rate of 1.25 persons. During the peak hours there would thus be 400 car movements in or out and two heavy vehicle movements in and out. Based on the available routing and the location of the major urban areas in the vicinity, it is estimated that 80% of the workforce would approach from the north and 20% from the south. This would result in the three junctions having maximum Ratios of Flow to Capacity of 26.8% and 71.3% in the morning peak in the case of junctions 1 and 2 and 68.9% in the evening peak in the case of junction 3. These are all within the theoretical capacity of 85% required by traffic engineers to allow for satisfactory operation at times of exceptional traffic flows such as bank holiday weekends, etc.

In relation to the pavement integrity impact of the proposed development, Falling Weight Deflectometer testing was carried out on behalf of the applicant on the local road. Coring and dynamic cone pentrometer testing was also carried out to determine the as-constructed thickness of the existing pavement layers. Using predicted traffic levels, in terms of HGV movements and AADT, the overlay requirements for the local road at various chainages were determined. A layer of overlay of differing thicknesses, up to a maximum of 200 millimetres, would be required over the length of the local road. The road would remain unwidened. It would be of insufficient width to allow two HGV's to pass in opposite directions. Consequently, a holding area is to be constructed at the commencement of the local road at Burntschool Crossroads. There would be a second holding area at the termination of the local road within the application site. The two holding areas would be in radio communication so that HGVs would be prevented from entering the local road, when another HGV was approaching in the opposite direction. Land has been acquired for the holding area at Burntschool Crossroads.

As noted previously, road access and traffic management was the prime issue with the Great Island Generating Stations Concerns committee. This was reiterated at the oral hearing. It was felt that the local Great Island residents were being expected to shoulder an unreasonable burden in terms of road traffic. There was a fear that the construction phase would turn out to be longer than indicated.

The submission from the planning authority to the Board noted that the issue of structural integrity of the county road was the subject of continuing discussion between its Roads Section and the applicant. Improvement works would entail local widening, drainage and resurfacing/strengthening works and these would need to be undertaken prior to the commencement of the heavy construction activities.

During the course of the oral hearing, the applicant appears to have put forward a slight revision of its assessment of the existing road, now noting it to vary in width from 4.5 metres to 6 metres, with the causeway section varying in width from 3.5 – 4 metres. It was indicated at the oral hearing that

the applicant understood the issues that had been raised through the undertaking of the traffic and transportation assessment, including the pavement integrity analysis, and had agreed a financial contribution with the planning authority for the implementation of a new drainage system along the length of the road from the R733 to the site entrance. This refers to an open cut drain to the side of the road which would be enclosed and surfaced over. This would lead to a widening of the road for its entire length, with the exception of the causeway. The implementation of these strengthening works would result in a 20 year residual pavement life for this local road from the R733.

At the oral hearing, the planning authority's Area Senior Executive Roads Engineer referred to the holding of eight meetings to date in connection with the county road to the application site. A list of works had been identified, as follows:-

- Digging out and stoning of the verges.
- Drainage, including piping on selected areas.
- Digging out and reinstating bad sections of road.
- Removing of one bad bend, kerbing and fencing.
- Carrying out accommodation works, e.g. entrances and
- Overlaying the entire road (4.8 kilometres) with either Clause 804 or a stabilised wet mix, followed by double surface dressing.

On completion of these improvement works, the road, with the exception of the causeway, would have an average width of 7.5 metres. The narrow part of the road, at the causeway would have a traffic control system, preferably a priority arrangement instituted.

It was confirmed at the oral hearing that the upgraded road to the application site would, with the exception of the causeway, be of sufficient width to allow cars and construction lorries to pass in opposing directions. The only difficulty would arise in the event of a large vehicle, such as an agricultural tractor, combine harvester or domestic oil delivery truck, encountering construction traffic approaching in the opposite direction.

Questioned on the realism of assuming that 400 construction workers' cars would arrive and depart during the morning and evening peak hours, rather than arriving and departing in the last and first ten minutes of these hours, the applicant replied that this is standard practice, based on arrival data patterns derived from the UK. There is a profile of arrivals building up over the duration of the arrival hour.

Although the holding area at Horeswood would be sufficient for just four construction lorries, it seems likely, that it would rarely be at capacity and that it would be possible for the holding area operative, with a normal level of goodwill, to detain non-construction related HGVs or other large vehicles at the holding area while oncoming northbound construction HGVs cleared the 4.8 kilometre length of the local road. Overall, with the improvements to the local road and a Traffic Management Plan in place,

while the use of this road by 400 cars during the peak arrival and departure hours would be perceived as a nuisance by the local community, in terms of obstruction of road users through large vehicles encountering each other in opposing directions, it seems unlikely that this would be any worse than could take place at present. I consider that this aspect of the proposed development would operate satisfactorily.

There might appear to be a discrepancy in the Environmental Impact Statement in relation to the consumption of distillate oil. At section 3.22.1 (page 3-16) it is stated that the plant would only operate on distillate oil in the event of an interruption to gas supply and for short duration testing, estimated at approximately three hours per annum. The initial filling, only, of the distillate oil tank would be by means of a tanker ship discharging at the jetty. At Section 15.5.1 (page 15-7) it is stated that it is envisaged that firing on back-up fuel would occur for less than 2% (7 days per year) of the total firing time, predominantly to test the systems are functioning correctly. Such a level of usage would have serious implications in terms of traffic generation. Based on the requirement to store 11,000 cubic metres of distillate oil to allow continuous firing for five days, firing for seven days would imply an annual consumption of 15,400 cubic metres. Using road tankers of average capacity, this would seem to imply up to two deliveries per day. However, it was clarified at the oral hearing that this would not be case. It was explained that the reference to 7 days per year at section 15.5.1 was to a worst case scenario, used for the purposes of atmospheric emissions modelling, only. The actual consumption would be just three hours per annum (Oral Hearing, Day 2, pp.16 & 17). This implies a very low level of road deliveries.

Ecology

Chapter 12 of the EIS, on flora and fauna, notes that a study area consisting of the development site and laydown area and a section of hedgerow along the access road to the site, was adopted. A desktop study area covered a wider area up to 15 kilometres from the development site boundary. A map is included in the EIS showing the designated conservation sites within a 15 kilometre radius of the development site.

A habitat and flora survey was carried out on 22nd July 2009. Habitats identified within the application site and the main part of the existing power station site up to the railway line, are shown on Figure 12.2 of the EIS. Within the application site, habitats consist of Re-colonising Bare Ground, Building and Artificial Surfaces, Immature Woodland and Mixed Broadleaved/Conifer Woodland. With the exception of the Mixed Broadleaved/Conifer Woodland, and the buildings and artificial surfaces, the latter of which are not of ecological importance, the flora encountered is listed in the EIS. None of this is of ecological significance.

Surveys were undertaken for the presence of badgers, bats and otters. The badger and bat surveys were undertaken on 4th and 5th August 2009. No evidence of badgers was found either on the application site or on the approach road, though an area of scrub within the proposed laydown area was

inaccessible. No bat roosts were identified. A single common pipistrelle was noted commuting through the proposed construction area. Common pipistrelles, soprano pipistrelles and Leisler's bat were encountered feeding. Overall, there was low bat activity around the existing power plant, with higher levels of activity along the woodland edge and the roadways, including close to the main entrance.

No evidence of otters was found within the application site or in the adjacent lands. The river to the south is noted to be a feeding ground for otters.

In relation to other fauna, the EIS notes the sighting of a fox on August 4th within the wooded area as well as evidence of foxes in the form of scats, scent marking, a fox track leading under a fence, fox hair and digging. Rabbit warrens were present and rabbits were sighted. A single juvenile hedgehog was found. Wood mice, house mice and brown rats are thought likely to be present.

Potential impacts arise from the removal of the immature beech and sycamore woodland in the proposed laydown area and the removal of hedgerow to facilitate the proposed parking bay at Burntschool Crossroads. During the construction phase, noise from machinery and vehicles would cause temporary minor negative impacts to bird species and mammals. There is a risk of disturbance of rabbits present in the warrens during site clearance. The removal of the immature woodland in the laydown area would result in the loss of feeding areas for mammals living on the site and in the surrounding area. Ponds, drains and pipe channels would pose a hazard to hedgehogs, with the risk of drowning. There would be a loss of potential roosts for bats arising from the demolition of a small number of the existing buildings. Possible fuel leakages from machinery could impact on soils, groundwater and the adjacent river estuary. Dust emissions could have an impact. Overall, however, the impact on flora and fauna during the construction phase would be minor.

The operational phase of the proposed development would have a permanent minor negative impact on ecology due to the removal of planted deciduous woodland from the site. The storage of fuel and oils on site would have the potential to impact on soils, groundwater and the adjacent river estuary if a leakage occurred. Air quality dispersion modelling was conducted to assess the potential impacts from airborne emissions on designated sites within a 20 kilometre radius of the proposed development. With the exception of the Lower River Suir, the predicted concentrations are well below the relevant Air Quality Standard of 30 micrograms per cubic metre. The predicted concentration at the Lower River Suir is 12.88 micrograms per cubic metre.

Proposed mitigation measures include examining the area of scrub in the laydown area in the winter when the scrub is reduced to determine whether or not there are, in fact, any badger setts present. Their removal would be undertaken under a licence from the National Parks and Wildlife Service. Hedgerows, trees and scrub would be removed outside the bird nesting season. Rabbit warren areas would be disturbed gently at first to allow any rabbits to escape before excavation. Planting of hedgerow and trees would compensate

for that lost as an area over which bats would feed. Planting of native trees around the perimeter of the site would enhance biodiversity. Areas of long grass would be retained, where possible, to provide shelter for moths and other invertebrates. Mesh ramps would be placed in trenches to allow hedgehogs to escape. Oil interceptors would be provided and oil, petrol and other potentially polluting substances would be stored within bunded areas.

The EIS continues (Section 12.2) with a consideration of marine ecology. Designated sites, relevant to the marine scope of the EIA, in general those within 15 kilometres of the proposed development, were considered in the assessment. Designated Natura 2000 sites in the immediate vicinity are considered at Section 12.2.3.5.

Table 12.12 sets out a Summary of Residual Impacts. These are evaluated in terms of the sensitivity value of the receptor, the significance of the impact and the significance of the residual impact.

A summary conclusion in relation to flora and fauna is set out at Section 12.2.7. This notes the proximity of the site to several designated areas of conservation, namely:-

- River Barrow and River Nore Special Area of Conservation (SAC)
- Lower River Suir SAC
- Barrow River Estuary proposed Natural Heritage Area (pNHA)
- Ballyhack pNHA
  and
- Waterford Harbour pNHA

Impact on the bottom dwelling communities in the inter-tidal and sub-tidal areas surrounding the application site are expected to be minor, as works would be restricted to within the power plant site boundary. Cooling water would be extracted via the existing cooling water intake culverts. There is the potential for fish to be impinged on the intake screens. The applicants would develop a technical solution in consultation with the Southern Regional Fisheries Board to determine the most appropriate and effective technology to mitigate against the entrainment of fish species and to minimise such occurrences to an acceptable level. This would take place after commissioning of the new plant in about 2013. The cooling water discharge would remain at the same temperature as the current discharge, but volume would be greatly reduced. Impacts on existing water quality and marine ecology are not expected to deteriorate or be further disturbed beyond the effects of the present plume. With the mitigation measures specified at Section 12.2.5.1 it is not expected that the proposed activities would have an adverse effect on the integrity of the sites or the qualifying features of the conservation objectives of the Natura 2000 sites. It follows that significant impacts are unlikely to occur.

Responding to the concerns of Cheekpoint Community Alliance to the removal of trees from the site, which the observers regarded as ecologically significant, the applicant elaborated on its written response. A temporary

construction laydown area is required for use as a compound for construction works and for the storage of materials. The only alternative available within the landholding is the former waste disposal area and this was discounted, due to concerns over the ground bearing capacity. The temporary laydown area would necessitate the felling of non-native trees which the applicant evaluated as being of no ecological value due to the non-native species present and the lack of ground and under-storey flora. The area would be replanted with native species of local provenance which would enhance the biodiversity of the site and result in a more ecologically valuable habitat. The applicant would liaise with the observers and with the Forest Service in developing a strategy for any replacement planting.

During the course of the oral hearing (Day 1, Page 129) the applicant indicated that it had proposed to the Southern Regional Fisheries Board, the use of acoustic deterrents to ensure that migrating salmon smolts are not impacted on the cooling water intake screens. The Fisheries Board was to examine an acoustic system which is operational in Spain. Questioned on the effect this form of acoustic deterrent might have on other species, the applicant indicated that it was likely also to be effective in the case of thwaite shad. It was less likely to be effective in the case of the three species of lampreys, but entrainment of this species has not been a problem to date. Cetaceans, and, in particular, dolphins, are sensitive to a different frequency range than would be used on the acoustic deterrent and would be likely to be unaffected. The effect on otters was not known, but it was felt that otters could swim further out into the estuary, if they found the deterrent offensive.

I consider that it has been shown that the proposed development would have a minimal effect on the ecology of the area. As might be expected for an area which has already been built over, the site for the generating station, itself, is low in flora and fauna and contains nothing of particular note. I have confirmed on site the nature of the planted woodland which is to be cleared and used as a laydown area. As noted in the EIS, this is a densely planted area of beach and sycamore. It is about 4 metres high. It has not been maintained, and in particular, it has not been thinned out. It has no under storey. It is of low ecological value. Its ultimate replacement following the cessation of the use of the area as a laydown area with a mix of Irish woodland species would, particularly if it is properly maintained, provide for a much greater potential for habitat diversity. The use of acoustic deterrents to divert fish away from water intakes has proved successful elsewhere, but even if this is not successful, the more than halved water intake should result in a corresponding reduction in fish entrainment. The applicant appears to have modified its stance in relation to the timescale for the installation of modifications at and in the vicinity of the cooling water intake. This would now be complete prior to commissioning of the new power plant.

Appropriate Assessment

As noted in the EIS, an Appropriate Assessment is required under Article 6 of the Habitats Directive where a plan or project may give rise to significant effects on a Natura 2000 site. All plans and projects which either by themselves, or in combination with other plans or projects, are likely to have a significant effect on such a site must be subject to an appropriate assessment of their implications for the site in view of the site's conservation objectives. Plans and projects are subject to a screening process, where existing documentation is used to assess whether they are likely to have significant effects on a Natura 2000 site. If such effects can be ruled out, a detailed appropriate assessment is no longer required.

The proposed development site abuts, on its south side, the River Barrow and River Nore Special Area of Conservation. Part of the application site is actually within this SAC by virtue of the projection of the jetty into the river estuary. The lower River Suir SAC commences at a distance of about 900 metres southwest of the application site. By virtue of being established under the Habitats Directive, both these SACs are Natura 2000 sites.

Appendix 12 of the environmental impact statement, on flora and fauna, contains a screening report on appropriate assessment. This notes the provisions of Articles 17 and 18 of the European Communities (Natural Habitats) Regulations, 1997. The former refers to operations or activities being carried out or which may be carried out on, inter alia, a European site. The latter refers to operations or activities being carried out or proposed to be carried out on any land that is not within, inter alia, a European site. The former refers to the operation or activity having a significant effect on the European site, while the latter refers to having an adverse effect on the integrity of the site, with both articles referring to the operation or activity being taken individually or in combination with other operations. In both instances, the Minister is required to ensure that an appropriate assessment of the implications for the site in view of the site's conservation objectives is undertaken. The European Communities (Natural Habitats) Regulations, 1997 transpose the provisions of European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora into Irish law. Articles 17 and 18 appear to be derived from Article 6(3) of the Directive. However, I can see no basis in the latter for the differentiation between the two articles in the Irish regulations.

The EIS extrapolates a five stage process based on the European Guidance Document *"Assessment of plans and projects significantly affecting Natura 2000 sites"*, as follows:-

1. Define the proposal
2. Establish that the proposal is not necessary to the management of the site for nature conservation purposes

3. Determine whether the proposal is likely to have a significant effect on the site, by adversely affecting the site's integrity. This is claimed to be the screening process
4. If the project is likely to have a significant effect, assess the implications of the proposal for the site's Conservation Objectives so as to answer the question "can it be demonstrated that the proposal will not adversely affect the integrity of the site?" This is Appropriate Assessment.
5. If the Appropriate Assessment indicates that no adverse effect will occur, the competent authority may proceed to grant consent; if not, further steps are required to demonstrate that the specific reasons why the development should be permitted apply, before consent may be granted. The screening exercise in the EIS addresses items 1-3.

In order to determine if the proposal is likely to have any significant effects on the designated sites, which it interprets as determining if the proposal is liable to have an adverse effect on the integrity of the sites, the EIS considers four issues, as follows

- could the proposals affect the qualifying interest and are they sensitive to the effect
- the probability of the effect happening
- the likely consequences for the site's Conservation Objectives if the effect occurred
  and
- the magnitude, duration and reversibility of the effect.

The decision on whether the site integrity could be adversely affected by the proposal focuses on and is limited to the site's Conservation Objectives. The assessment is based on

- a description of the Natura 2000 sites and the qualifying interest features for which they are designated
- details of the proposed development, highlighting possible effects on the qualifying interest features
- identification and evaluation of impacts on the ecology and nature conservation value of the sites
  and
- the potential for in-combination effects when considered along with other existing and proposed schemes.

Tables 3.2 and 3.3 in the screening report state the features of interest and conservation objectives of the Natura 2000 sites and give an analysis of the potential effects of the proposed development. Table 3.2, in relation to the River Barrow and River Nore SAC describes how the project (alone or in combination) is likely to affect this site. The construction phase could, potentially, result in direct and secondary contamination of Annex 1 habitats and Annex 2 species. During the operational phase there would be noise, light, emissions to air and abstraction of and discharges to water, the main risks being direct damage to Annex 2 fish species and their larvae from

impingement on the cooling water intakes, direct, indirect and secondary effects from the cooling water system on Annex 1 habitats and Annex 2 species through the intake and discharge of cooling water and secondary effects on qualifying birds from air emissions.

The table explains why the effects are not considered significant. The spillage of fluids during construction might result in contamination of surface water runoff from the site, but the level of risk would be substantially lower than existing risks from marine and river vessels. Machinery would be contained within site boundaries. In the unlikely event of spilled vehicle fluids reaching the estuary, they would be small in quantity and would dissipate relatively quickly and would be unlikely to have a lasting impact on inter-tidal flora and fauna. During the operational phase, the reduction of the cooling water intake rate would reduce the mortality of fish eggs and larvae passing through the cooling water system. The discharge of heated water with antifouling chemicals does not appear, at present, to have any adverse impact. The volume of cooling water that would be abstracted is relatively small in comparison to the volume of each tidal exchange and would be greatly reduced by comparison with the current situation. It is held that the aspects with the potential for impact during operations such as air emissions, would have a reduced magnitude in comparison with the current power generation operation and that they did not need to be considered further in the screening assessment.

The table concludes by stating that taking the combination of the proposed mitigation measures and the change from the current situation into account, it is anticipated that the status of the special conservation interest for Annex 1 habitats and Annex 2 species for which the SAC is designated, would not be compromised. (Both are currently at favourable status). Likewise, the species and biodiversity of the entire site would not be compromised. Therefore, no impacts which would be likely to have an adverse effect on the integrity of the site are expected to occur. The proposed development would not be likely to have a significant effect on the SAC, either alone or in combination with other plans or projects.

Like Table 3.2, Table 3.3, in relation to the lower River Suir SAC, contains a brief description of the Natura site and gives its conservation objectives. The screening appraisal is a verbatim of that in relation to the River Barrow and River Nore SAC.

The screening report concludes that in accordance with the European Guidance Document *"Assessment of plans and projects significantly affecting Natura 2000 sites"*, it is concluded that an Appropriate Assessment is not required.

I consider the content of Tables 3.2 and 3.3 to be reasonable and sufficiently comprehensive. I note also that the Department of the Environment, Heritage and Local Government is satisfied that the footprint of the proposed development does not pose a known significant threat to the Special Area of Conservation SAC 002162 (the River Barrow

and River Nore) and natural heritage in the area. However, there are shortcomings in the treatment of Appropriate Assessment in the environmental impact statement. Notable among these is the statement that the screening process consists of the determination of whether the proposal is likely to have a significant effect on the site by adversely affecting its integrity. The European Guidance Document *"Assessment of plans and projects significantly affecting Natura 2000 sites"* requires only an assessment of whether significant impacts are likely to occur. These would not necessarily affect a site's integrity. The conclusion that *"due to combinations of the proposed mitigation measures, the magnitude of impacts and the positive changes from the current situation, the proposed activity will not have an adverse effect on the integrity of the sites or the qualifying features of the conservation objectives of the Natura 2000 sites"* and that therefore significant impacts are not likely to occur appears to be in reverse. It should be that the fact that significant impacts are unlikely to occur would mean that there would not be an adverse effect on the integrity of the sites or the qualifying features of their conservation objectives.

In addition to the above shortcoming, the EIS holds, repeatedly, that the site lies outside of the designated Natura 2000 sites, whereas, in fact, the jetty, which forms part of the application site is actually within the River Barrow and River Nore SAC. The construction and development area is misidentified on Figure 3.2. Identical screening appraisals are presented for both Natura sites.

There is no elaboration on the conclusion that the proposed development would not have a significant effect on the SACs in combination with other plans or projects. In my view, these other plans and projects in the vicinity of the application site, could only reasonably be the proposed extension of Belview Port or the existing Smartply plant. It was clarified during the course of the oral hearing (Day 1, Pages 136 and 137) that there would be no in-combination effects with either of these developments. In addition, it was noted that cement dust from a plant in Belview Port was unlikely to enter the marine environment as the process is contained and dust emissions are minimised. Any discharges which might arise from a bio-diesel plant in the port would be highly biodegradable and would be quickly broken down in the estuarine environment.

I note also that the proposed development is presented comparatively with the existing Great Island power station. I consider this to be a valid consideration and that it is of significance that this power station had long been in operation at the time of designation of the two SACs. The emissions arising from this power plant, which appears to have operated satisfactorily in accordance with the terms of its IPPC licence, would have been a long established input into the two SACs. While the decommissioning and demolition of this existing power plant does not form part of the present application, decommissioning will necessarily follow on commissioning of the proposed development. There is every

indication that this decommissioning would be followed by full demolition and site clearance.

Despite the previously mentioned shortcomings, based on the screening report and, in particular, the content of Tables 3.2 and 3.3, and on the reduced emissions by comparison with the existing power station, I consider it reasonable to conclude that the proposed development, either individually, or in combination with other plans or projects would not have a significant effect on the SACs.

Archaeology

As noted previously, chapter 17 of the environmental impact statement is on material assets and is subdivided into a section on archaeology, architecture and cultural heritage and a section on utilities. No items of archaeological, architectural or cultural heritage value were found to exist within the application site. However, the site is located within an archaeologically rich landscape, being within 2 kilometres of seventeen recorded monuments. The closest recorded monument – WX039-028001-005, a castle – ring work, an Anglo-Norman masonry castle, an unclassified castle, an unclassified enclosure and a leper hospital is at a distance of about 150 metres. No items of archaeological, architectural or cultural heritage value were noted within the proposed parking bay at Burntschool Crossroads. It is recommended that archaeological monitoring should be conducted by a qualified archaeologist during the site clearance and excavation works within the development site and at the location of the parking bay.

Following a presentation at the oral hearing consisting of an overview of the archaeological findings, as stated in the environmental impact statement, and confirming that the applicant is prepared to undertake archaeological monitoring as recommended by the Department of the Environment, Heritage and Local Government, the applicant responded to questions from an observer and from An Taisce. The observer raised concerns in relation to the existence of 12th century fish traps which he claimed were located in the river inside the jetty. He was concerned that the bringing of barges into the shore inside the jetty would seriously undermine the remains of these fish traps. The initial response was that there would be no works in the river which would put any underwater archaeology in jeopardy. It was clarified that barges bringing in heavy loads would tie up at the jetty and that they would not be of sufficient draft to require further dredging or interference with the riverbed.

Responding to a question from An Taisce in relation to the causeway bridge, the applicant confirmed that it was of significance in terms of architectural heritage. It was identified as architecturally important in terms of cultural heritage and this was the reason it was recommended that it should not be altered and the alternative of the holding bay system is now proposed.

Confirming that the ring work, about 150 metres north of the boundary of the landholding, is archaeologically significant and that it is quite extensive, the applicant noted that a modern bungalow had already been built within it.

Asked how close the applicant considered a road should be to a site of that nature, the applicant responded that the road actually passes through the site. An Taisce submitted that the widening of the road might then be problematic, but it was pointed out that widening was not contemplated, but rather that an existing drain would be culverted and paved over within the existing road boundary.

I note that the site is in an archaeologically rich area, so that while no archaeological features have been identified as extant on the site, there is, as acknowledged in the environmental impact statement, the potential to yield subsurface archaeological material. This seems unlikely in the case of the actual development site, the existing platform of which appears to be derived from a combination of excavation from solid rock at the time of construction of the original power station and filled land behind a rock armour embankment . However, the laydown area, although relatively recently forested could well yield archaeological material. The recent finding of an Anglo-Saxon hoard at Lichfield in Staffordshire, in a field which had regularly been ploughed over, gives an indication of the possibility of finding archaeological material in both the laydown area and in the parking bay to be constructed at the commencement of the local road at Burntschool Crossroads.

In relation to the possibility of the existence of Mediaeval fish traps in the estuary, the mooring of barges could take place at, but inside, the lateral pontoons of the jetty, without interfering with the seabed. The abnormal loads could then be transferred by means of a land-based crane.

The applicant has confirmed a willingness to undertake archaeological monitoring as recommended by the Department of the Environment, Heritage and Local Government.

Flood Risk Assessment

Appendix 14.3 of the environmental impact statement consists of a Flood Risk Assessment. In its Initial Flood Risk Assessment significant possible flooding mechanisms are listed as:-

Tidal/coastal, as the Suir/Barrow Estuary is affected by tides,

Fluvial and pluvial from on-site runoff

and

Tide locking.

It is pointed out that no site specific geotechnical investigations had been carried out to date, so assessment of groundwater as a flood risk was not possible. It should be assessed further at detailed design stage. However, it is noted that groundwater levels would be largely influenced by the water level

in the estuary, meaning that flood risk associated with groundwater would be likely to be low.

Available flooding information consisted of the OPW National Flood Hazard Mapping website which indicated a recurring flood event from high wind and wave action at Cheekpoint on the opposite side of the estuary. This website included a report which examined flooding at Scotch Quay in Waterford City about 10 kilometres upstream. This report also contained a report by H. R. Wallingford from 33 years of data recorded at Great Island. This showed data ranging from 4.91 metres O. D. Poolbeg for a 2 year return period up to 5.71 metres for a 200 year return period. Maps prepared in connection with the Arterial Drainage Act, 1925 identify land that might benefit from the implementation of Arterial (Major) Drainage Schemes and designated "Land Commission" and "Drainage District" located immediately east of the development site. This shows that flooding was previously a concern at lands close to the existing and proposed power stations, but not at the actual site. Reports of flooding on 1st February, 2002 at New Ross and Arthurstown coincide with the highest predicted tide. The OPW flood maps also report severe flooding at Arthurstown between 27th and 29th October 2004. Records kept by the OPW from Scotch Quay in Waterford City also show that water reached its highest level on 27th October 2004.

Even though the EIS cautions that the data was only taken over a 33 year period, making extrapolation to return periods of 50 years and greater less reliable, nevertheless, it notes the existing site has a finished ground level above the 200 year return level of 5.71 metres O. D. Poolbeg. Taking the 200 year return period extrapolation and the lack of such an extrapolation for a 1,000 year return period, the existing ground level at 1.3 metres over the 200 year predicted level is at "Moderate Risk" and probably at "Low Risk" based on the then draft (and now current) guidelines on "*The Planning System and Flood Risk Management*". Noting that the OPW predicts a mean sea level rise of 500mm for its Mid-Range Future Scenario and 1,000mm for its High End Future Scenario and that the Greater Dublin Strategic Drainage Study (Climate Change Policy) recommends design sea level rises of 400 - 480mm by the end of this century and 1,000mm for key infrastructure or long term planning, the EIS claims that it is therefore evident that the minimum sea level rise that should be considered in the present instance is 500mm. The ongoing *Irish Coastal Protection Strategy Study* predicts that flooding would not occur at the Great Island site for either the 200 or 1,000 year return event, though this is not permitted as a reliable source, as it remains unpublished.

This part of the appendix concludes, in relation to coastal and fluvial risk, that the proposed site is not likely to flood during a 200 year event and can be considered at moderate risk at worst and would probably be at low risk if a 1,000 year extrapolation was available. At between 6.4 metres and 7.3 metres O. D. Poolbeg the existing site is higher that the highest recorded tide at Scotch Quay in Waterford City. Standard practice is to allow for uncertainty by ensuring that proposed floor levels are at least 500mm higher than predicted flood levels. Standard practice is also to add at least 500mm to predicted high water levels to allow for the effects of climate change. The

best available estimate for the site is 5.71 metres O. D. Poolbeg so the minimum finished floor level that could be recommended is 6.71 metres O. D. Poolbeg. A finished floor level of 7.2 metres O. D. Poolbeg is to be adopted.

On pluvial flood risk and on-site drainage it is noted that up to 62% of the combined generating plant and above ground gas installation sites would consist of impermeable surfacing. The new development would result in an increase of surface water runoff rates during rainfall events. Discharge rates to watercourses are typically restricted to predevelopment rates in order to prevent downstream flooding. However, the Greater Dublin Strategic Drainage Study recommends that while this is ideal, in cases where the consequences of non-compliance are minimal, such as draining to an estuary or coast, an intelligent approach should be adopted to the application of the criteria. At this point the Barrow estuary is about 800 metres wide and it is submitted that an unrestricted discharge approach is valid, as the increased rate would not be enough to increase flood risk to downstream properties or land. The possibility of tide-locking would be addressed at detailed design stage, but the fact that the proposed ground level would be about 2.7 metres above the Mean High Water Spring level and 1.3 metres above the predicted 200 year storm event; means it is likely that tide-locking would be overcome by the pressure in the collection and discharge system. Consequently, there is little likelihood of a need to require storage or of flooding.

I consider that the flood risk assessment is satisfactory. It undertakes the stages in the assessment of flood risk recommended in the technical appendices of the *Planning System and Flood Risk Management Guidelines for Planning Authorities* published in November of 2009, albeit not in the 3-stage format recommended in the Guidelines. It combines Flood Risk Identification and Initial Flood Risk Assessment in a single chapter. As part of the flood risk identification, it notes a reasonable range of sources of flood data both in relation to the site itself and the vicinity. It analyses increased future risk in terms of coastal, fluvial and pluvial risk. Finally, this time as a separate chapter, it identifies mitigation measures namely the chosen floor level of 7.2 metres O.D., ensuring that potential access routes are free, even in the event of extreme flood events and undertaking a survey of the existing drainage system to determine how the existing and proposed collection systems would function when combined. A Stage 3 detailed flood risk assessment is not included, but the Guidelines do not require such an assessment to be undertaken in the case of a development which is not subject to a significant flood risk.

Visual Impact

Chapter 16 of the EIS is entitled "Landscape and Visual". A potential zone of visual influence is established within a 20 kilometre radius of the centre of the application site. This Zone of Theoretical Visibility is based on bare ground and does not take into account screening by buildings or vegetation. Viewpoints are identified to facilitate the assessment of likely impacts on visual amenity. The methodology used for assessing the importance/sensitivity to proposed change is based on that in the *"Guidelines for Landscape and*

Visual Impact Assessment" published by the Landscape Institute and Institute of Environmental Management and Assessment in 2002.

The EIS adopts the landscape character areas as specified in the county development plans for Wexford and Kilkenny and, in the absence of such a classification in the Waterford County Development Plan, devises similar landscape character areas for the affected part of that county. The landscape character areas are described, in summary, and it is noted that the site would be visible from only limited areas within them or that they are predominantly orientated away from the application site and, having regard to the fact that the proposed development would be on the site of an existing power station, the importance/sensitivity to the proposed change is rated as low.

The EIS goes on to define two local landscape character areas. These are the industrialised landscape of Great Island and the Rivers Suir and Barrow farmed landscapes with settlements. The sensitivity of the former is rated as low. The latter is noted to comprise farmland with some small riverside settlements such as that at Cheekpoint. The confluence of the Rivers Suir and Barrow is noted to be central to the area and both rivers are considered to be key defining elements influencing the character of the area and contributing to its scenic quality. However, the existing power plant is visible from many locations within the area and is often visually prominent. On this basis, the EIS rates this local character area as having a medium sensitivity to the proposed development.

The EIS notes the designated landscapes and views in the three counties within the Zone of Theoretical Visibility. The character and importance of these designated landscapes and views is acknowledged and, where there is no screening of the application site, the EIS takes into account that the proposed change would arise on the site of the existing Great Island power plant and accordingly allocates a medium importance/sensitivity to the proposed change.

In terms of cultural assets, the EIS takes into account the sites of recorded monuments within a 2 kilometre radius of the centre of the application site, all national monuments within the Zone of Theoretical Visibility and sites outside the 2 kilometre radius identified as being in a visually prominent location on the edges of the Barrow Estuary. Sites were scoped out of the process, initially, if they were primarily below ground, or with surface features only visually apparent to an expert at very short range or because they were located within a built-up area. Three further recorded monuments were scoped out of the assessment due to being screened by hedgerows. This left just three recorded monuments, namely, an architectural complex including two castles near Great Island, a monastic site at Kilmokea and Dunbrody Abbey. It was felt that the archaeological complex might be visible in combination with the proposed development from certain angles and accordingly, it is rated as having a low importance/sensitivity. The same applies to the monastic site at Kilmokea. Dunbrody Abbey is noted to be a complex of structures of varying height and scale visible from the surrounding local landscape. The EIS assesses it as an important feature making a contribution to the character of the local landscape. It is a visitor attraction. The setting is already affected by the

existing Great Island power plant, but nevertheless, its importance/sensitivity to the proposed change is rated as medium.

Fifteen viewpoint locations are selected. These range in distance from 0.1 kilometres up to 16.5 kilometres. The types of viewer are assessed and classified into residential, recreational, road users and workers, although no road users are noted in Table 16.13 summarising the viewpoint findings. The viewer types are also classified by numbers, namely, "many" – more than 50, "mod" – 15-50 and "few" – 0-15. The sensitivity of the viewpoint to the proposed change is classified as low, medium or high, though the EIS notes that a high assessment reflects in part the quality of the existing view. Thus, in the case of Cheekpoint, where the existing power plant is noted to be present as a dominant and sizable entity in the existing view and to detract greatly from the view quality, the sensitivity of the viewpoint to the proposed development is rated as low. During the construction phase, mitigation measures would include fencing around the site and to protect vegetation to be retained, the storage of materials and machinery behind fencing, maintaining internal access roads free of dust, restricting lighting to agreed working hours, removal of temporary fencing, barriers, traffic management and signage, when no longer needed, the removal of spoil and construction material on completion of the development, the reinstatement of work sites and other land occupied on a temporary basis and the implementation of a Construction Environmental Management Plan.

In terms of the impact of the construction phase on the landscape character areas of the three counties, the magnitude of change is assessed to give rise to an impact ranging from low significance to no significance.

On residual impacts of the operational phase on landscape character and visual amenity, it is noted that the significance of the impact takes account of the fact that the proposed change would arise on the site of an existing power plant. The structures of the existing plant are notably larger in size e.g. the two stacks are 137 metres high while the proposed stack would be 60 metres. On this basis, the impacts on all but one of the landscape character areas in the three counties is noted to be an overall small magnitude of change, resulting in an impact of low significance. The exception is the Waterford City Urban Character Area wherein an overall very small magnitude of change is assessed, resulting in an impact which is not significant.

In terms of impacts on the local landscape character, having regard to the existing power plant occupying a large proportion of the area and continuing to be visually dominant, a small magnitude of change is assessed to arise. In the local landscape character area of the Rivers Suir and Barrow farmed landscapes with settlements, an overall medium magnitude of change is assessed to arise in this landscape of medium sensitivity, resulting in a moderate impact.

Five designated landscapes and views are identified, namely the Area of High Amenity along the Barrow/Suir Estuary between New Ross and Waterford,

the view over the confluence of the Rivers Suir and Barrow at Snow Hill in County Kilkenny, the Sensitive Landscape in the vicinity of Ballyscanlan Lough in County Waterford, the Visually Vulnerable Landscape at the confluence of the Rivers Suir and Barrow in County Waterford and Scenic Route SR15 in the vicinity of Cheekpoint, County Waterford. The magnitude of change is rated as medium, where visible, medium where visible, small, where visible, medium and small, respectively.

Three locations are considered in terms of impacts on cultural assets. These are the archaeological complex, including two castles near Great Island, monuments associated with the monastic site of Kilmokea and Dunbrody Abbey. In each case, a small magnitude of change is assessed to arise. This takes into account that each location is already adversely affected by the presence of the existing power plant.

The drawings submitted originally with the application present elevations of various elements of the proposed development, separately. For instance, the south elevation of the gas turbine and steam turbine building is shown at a scale of 1:200 on drawing no. 257554/01C/024. At this scale, the building is too long to be presented on a single A1 sheet. Accordingly, it is shown in two parts with a matchline. The boiler feed pumps and chemical injection building which would be located in front (south) of the gas turbine and steam turbine building is shown at a scale of 1:100 on drawing no. 257554/01C/050. The drawings appear to fail to give an overall impression of the proposed development and the different scales could be seen as confusing in this regard. The only real overall visual impression appears to be presented in the photomontage in Figure 16.7(b) of Appendix 16 of the environmental impact statement. This is at a very small scale.

The adequacy of the lodged drawings and, in particular, the lack of overall elevations and contiguous elevations was flagged as an issue in the agenda which was circulated prior to the holding of the oral hearing. At the oral hearing, four modified drawings were produced. A modified site location key plan, drawing no. 257554/01C/003, Revision P8 shows the location of the site cross sections. All the cross sections are outside the envelope of the proposed development and it follows that the drawings of the site cross sections A-A, B-B, C-C and D-D, which were submitted with the application, are in fact overall elevations of the proposed development. They are at a scale of 1:500. Three modified site cross section drawings were submitted at the oral hearing. These show the proposed development in relation to the existing development and to other features on site, such as part of the tank farm. These are:-

Drawing no. 257554/01C/007, effectively a northern elevation of the proposed development in relation to the existing power station and office building,

Drawing no. 257554/01C/008, Revision P7, effectively a southern elevation of the overall development in relation to the existing power plant, office building and the two nearest tanks in the tank farm,
And

Drawing no. 257554/01C/009, Revision P7, effectively an eastern elevation of the proposed development showing its relationship with the nearest existing tank and two of the tanks in the tank farm and a western elevation of the proposed development taken immediately between it and the existing power station, showing an overall west elevation including three of the tanks in the existing tank farm.

A further issue which was of concern to the Board was the accuracy of the photomontages which had been submitted with the application. This also was flagged as an issue in the agenda which was circulated prior to the holding of the oral hearing. **It was my opinion that the photomontages originally submitted seriously understate the proximity of the proposed development to the chosen viewpoints. Although I estimated the extent of understatement to be greater at one of these locations, namely, Ballinlaw in County Kilkenny, the understatement appeared to be most noticeable and of greatest significance in the case of the viewpoint from Cheekpoint.**

During the course of the oral hearing, the applicant presented an overview of the methodology used in the derivation of the photomontages. I have no issue with the methodology. I have little doubt that the photomontages accurately portray the proposed development in relation to the existing development and the surrounding landscape. The modified version of Figure 16.7(a), presented at the oral hearing, showing the proposed development when seen from Ballinlaw in County Kilkenny, with the proposed power station shown 100% larger than originally presented, misses the point of my concerns. The view I held was that this modified photomontage should, not alone have shown the proposed development enlarged by 100%, but also the existing power station and its chimneys, the Barrow Bridge and everything in the photograph. In short, the entire view appeared too distant.

The applicant's consultant, responsible for preparing the photomontages revisited Cheekpoint during the course of the oral hearing. He took the photomontage back to the viewpoint location and holding it at the recommended viewing distance claims to have observed a good correspondence between the visual location of features in the photomontage and those seen by his naked eye. He showed a photograph, on screen, at the oral hearing, in which he is seen to look at the photomontage with the actual power station in the background. He was adamant that the existing photograph accurately portrayed the proximity of the Great Island power station as seen from Cheekpoint and that the photomontage accordingly gives an accurate impression of the visual impact of the proposed development.

Subsequent to the oral hearing I attempted to repeat the viewing exercise at Cheekpoint, as demonstrated by the applicant's consultant, taking particular care to adopt the recommended viewing distance. I now accept that the consultant is technically correct. However, I remain of the view that the photographs, on which the photomontages are based, somehow understate the proximity of the site to the viewer. The Board should be aware of the sheer dominance of the existing power station when seen

across the estuary from Cheekpoint. What would otherwise be a scenic rural environment with a rolling agricultural landscape opposite the wooded headland of Drumdowney Point is replaced with an industrial landscape consisting of the existing power station and its associated tank farm.

In the agenda circulated prior to the oral hearing, the Board had raised the question of re-orientating the proposed development north/south, rather than east/west. This would reduce the visual impact of the proposed development when seen from Cheekpoint. At the oral hearing (Day 1, Page 69), it was explained that the orientation of the building is defined by the layout of the plant and the available space on site. The CCGT plant would comprise a single shaft with the gas turbine, steam turbine and generator in line. There is insufficient space on site to accommodate an alternative building orientation. It was explained at the oral hearing that the single shaft design means that the gas turbine, steam turbine and heat recovery steam generator must be kept in line. There is simply not enough room to re-orientate it north/south in a position which would be immediately to the east of the existing power station. It would not be appropriate to intrude into the steeply sloping rock escarpments to the north and east of this area. As well as that, there is existing infrastructure which would best be retained such as the underground oil pipelines. The location of the new power plant in this position would also make it much more difficult to demolish the existing power plant and stacks.

In the course of the oral hearing, the applicant elaborated on its response to the claim of the Cheekpoint Community Alliance that the application fails to adequately mitigate the visual impact of the proposed plant on the village. The technical requirements and restrictions result in the current layout with the proposal very close to the shoreline. There is thus no space for the provision of planting mitigation between the proposed plant and the village. The colour finishes of the principal structures have been selected to minimise visual impact. The colour of the existing power plant was taken into account. In addition, a horizontal band detail would be applied in a slightly contrasting colour. This would visually enhance the proposal by breaking up the overall mass of the larger structures. The trees to be cleared to make way for the temporary laydown area do not contribute a great deal to the broader landscape amenity. It is a small area by comparison with the extent of trees and woodland in the surrounding area. It would ultimately be planted with mix of native tree species which would be less densely planted and better maintained. Despite the foregoing, the applicant is committed to liaising with the Cheekpoint Community Alliance and Wexford County Council in determining appropriate colours and aesthetic finishes to minimise the impact of the development. The choice of laydown area was largely dictated by technical constraints elsewhere on the site, notably the unsuitability of the capped cell area and the fact that much of the remainder of the site is beneath a network of overhead high voltage cables. A representative of the ESB pointed out that they generally required a 25 metre way leave on either side of 110kV and 220kV overhead lines, meaning that the land beneath these lines is unsuited even to tree planting.

I consider that while a detailed choice of colour scheme might well reduce the visual impact of the proposed development, when seen from Cheekpoint, no colour scheme is going to disguise the fact that this is a very large structure, extending laterally, east/west, face-on towards Cheekpoint over a distance of 120.5 metres and reaching a height, in the case of the heat recovery steam generator building, of 30.9 metres. At its eastern end there would be a stack 60 metres in height. The fact that this building, together with the auxiliary buildings which would be located in front (south) of it, would be located extremely close to the shoreline, means, as noted by the applicant, that there would be no conventional scope for planting to break up its visual mass. The possibility of adopting trees in extremely large planters could be investigated. However, the Board should note that this is a long established brownfield site and that the proposed development would present a more cohesive and uncluttered profile, when seen from Cheekpoint, than the present power station. The existing tank farm is also a major visual element when seen from Cheekpoint, particularly as one ascends from the shoreline. (Much of the village is located on the slope which commences immediately back from the shoreline and has housing up to an altitude of about 35 metres). This tank farm would remain (see section on "Other Uses"). However, they would now be seen from Cheekpoint above the new building, rather than exposed above a heavily planted escarpment. I am unclear as to whether the sitka spruce on the rock slope up to (south of) the tank farm have reached the height of their growth potential having regard to the available soil depth (about 1 metre). A single row of poplars planted immediately above the spruce and already considerably higher may afford some additional screening, at least in summer.

The photomontage showing the view from Cheekpoint following the demolition and clearance of the existing power plant and its stacks shows that ultimately, there would be some improvement in the outlook from the village. The clearance of the existing power station should provide the opportunity to undertake some planting between the existing administrative offices, which would be retained, and the new power plant. However, even if this is not the case, as is shown in the revised photomontage, with the removal of the existing power plant, there would be a view through to the backdrop of rising agricultural lands.

During the course of the oral hearing, the applicant was asked whether or not there would be a visible gaseous plume from the stack at any stage. It was explained that a visible plume would only occur after initial start-up following delivery. There would be an opening belch of smoke (correctly termed as such), followed by visible smoke for some time for a period until the full system was essentially burnt-in. This would be a matter of hours at most. After this, and even on start-up, there would be no visible emissions.

This assurance appears to be consistent with what can be witnessed elsewhere in the case of jet engines. There can be spectacular emissions of smoke from newly installed jet engines on initial start-up, albeit for minutes rather than hours. This results from the burn-off of protective

coatings which are placed on the engine components to protect them prior to use. In my view, this assurance is important from the point of view of visual impact, particularly from a distance. In this regard, it is noticeable that the emissions from the Smartply plant some 3 kilometres to the southwest of the application site, in Belview Port, draw attention to its existence long before the viewer is aware of the plant, or even the stack.

Other Uses on Site

During the course of the oral hearing, the applicant was questioned on the future use of the jetty as a berthing place for cruise liners. I had, in the past, noted the presence of a cruise liner at the jetty. It was explained that this was an occasional procedure adopted when a cruise liner was not able to anchor off Dunmore East in order to allow passengers to disembark to visit tourist attractions in the southeast.

Of greater concern than the occasional docking of cruise liners is the future use of the redundant oil storage tanks. It was confirmed during the course of the oral hearing that these would be retained. The oil tanks are regarded as a valuable commodity which is in very condition. It would probably not be economic to relocate them.

The applicant confirmed that the landholding could not be used for any other purpose other than for electricity generation. There are no current plans for the use of the redundant oil storage tanks and it was claimed by the applicant that *"any use which involves a change of use from the existing use will obviously be the subject of a planning application"* (Oral Hearing, Day 2, Page 19). Questioned as to whether any such other use would be outside the terms of the acquisition of the site by the applicant, it was felt that that was a matter which would have to be looked at and that the applicant might need to take legal advice.

In my view, the future use of the oil tanks could have far more serious implications in terms of traffic generation on the local road network than would arise from the operational phase of the proposed power plant. It seems to me that the prime purpose of the Asset Strategy Agreement between the Commission for Energy Regulation and the ESB, which required the latter to divest some of its generating stations to third parties and which, at paragraph 7.2 required that *"the Conditions of Sale in respect of each of the Sale Sites shall include a condition in the Approved Form that the relevant Sale Site shall only be used for the Use"* was to secure the future ongoing use of the site for power generation. It was the intention that such sites would continue in use for electricity generation for a minimum period of 20 years. It seems quite possible that once the applicant has demonstrated that the continued use of the landholding for power generation has been secured, it might well succeed in being released from the exclusion of other uses, such as that by another occupant at the tank farm. Should it be disposed to grant permission for this development, I consider that the Board should preclude the

possibility of any use of the remaining oil storage tanks being made without a prior grant of planning permission.

Car Parking

As noted in Chapter 10 of the environmental impact statement, during the construction phase, up to 400 construction workers cars would arrive and depart during the peak hours. These cars would need to be accommodated on site. Questioned during the oral hearing as to whether it was intended that these cars would be accommodated within the laydown area, the applicant replied that this had not been decided yet and would probably become part of the Construction Management Plan. There is a number of areas on site that could be used for car parking, but could not be used as laydown areas because of overhead power lines. These are hard areas. In addition, there is the existing car park.

In my view, the car parking which would be required during the construction period would be substantial and, should arguably have formed part of the application. I estimate that this car parking would amount to about 0.75 hectares. However, the areas on site which would be suitable for car parking are not highly visible, particularly from Cheekpoint. I consider that construction worker car parking should form part of the Construction Management Plan, which should be finalised and agreed in writing with the planning authority prior to commencement of development.

The Need for Additional Power Lines

Noting that the power output at Great Island would increase from 240MW to 430MW, the applicant was asked how it could justify its claim that there would be no need for additional transmission lines (Oral Hearing, Day 1, Page 41), while at the same time claiming that there would be some need for reinforcement (Oral Hearing, Day 1, Page 44). The applicant explained that there was overcapacity in the existing overhead lines. They could not be likened to pipes which are full. The applicant would make use of this over-capacity to export the additional power output. This overcapacity was in the existing lines and not in the vacant crossbar positions which I had noted leaving the substation yard, during the course of my site inspection. The reinforcement did not refer to new cables, but rather to upgrading certain equipment which might be limited in its rated current capacity.

Safety

The fourth schedule of the Planning and Development Act, 2000 specifies reasons for refusal of planning permission which do not attract compensation. Amongst these are

"5. The proposed development –

(a) could, due to the risk of a major accident or if a major accident were to occur, lead to serious danger to human health or the environment …"

and

"10. In the case of development including any structure or any addition to or extension of a structure, the structure, addition or extension would - …..

(f) endanger the health or safety of persons occupying or employed in the structure or any adjoining structure…"

As noted earlier, the site is a lower tier Seveso 2 site by virtue of the requirement to store approximately 10,000 tonnes of distillate oil within the tank farm as an emergency backup fuel.

Having regard to the fact that the application relates to the provision of an establishment under the European Communities (Control of Major Accidents Hazards Involving Dangerous Substances) Regulations, 2006, the Board requested the Health and Safety Authority to give it technical advice on the effects of the proposed development on the risk or consequence of a major accident. On 25th January 2010, the Health and Safety Authority responded to the Board. It advised on the basis of the information supplied that it had determined that the siting criteria for new establishments had been met. Accordingly, it advised that it **DOES NOT ADVISE AGAINST** the granting of planning permission in the context of major accident hazards.

The advice of the Health and Safety Authority would have been largely based on the Quantitative Risk Assessment – Land Use Planning Report included at Appendix 3.3 of the environmental impact statement. Following the lodgement of the application with the Board and following receipt of the report from the Health and Safety Authority, a fatal accident occurred on 7th February 2010, during the construction of a combined cycle gas turbine power plant at Middletown, Connecticut, USA. The US Chemical Safety and Hazard Investigation Board determined that the accident occurred as a result of gas venting in order to purge newly constructed gas pipelines leading into the plant of construction and other debris. It seems that of the order of 11,000 cubic metres of gas was purged in the 10 minutes prior to being accidentally ignited in a relatively confined space and causing an explosion. During the oral hearing, the applicant was asked if such a purging procedure would be adopted at Great Island. The applicant advised that the normal procedure for purging gas pipelines for the purposes of cleansing them of debris is to use compressed air.

I do not suggest that the apparent elimination of this source of potential accident should be taken, by the Board, as an exhaustive indication that the risk of a major accident or the endangerment of the health and safety

of persons occupying or employed in the structure, can be eliminated. However, in view of the topicality of the accident at Middletown, Connecticut, I considered it pertinent that the matter should be raised. On the basis of the report from the Health and Safety Authority and the response of the applicant, I do not consider that the Board can reasonably form the view that the proposed development would either give rise to the risk of a major accident or endanger the health and safety of persons occupying or employed in the structure or adjoining structures.

Employment

Noting that it was proposed to construct a 100MW open cycle gas turbine generating station elsewhere in Ireland, which would be remote controlled (a reference to PL10.230211 at Purcellsinch, in County Kilkenny) the applicant was asked to confirm that the long term employment at the generating plant would be 38. The applicant confirmed that this would be the case. It stated that combined cycle gas turbines are a fairly standard plant and 38 is the normal employment level in Ireland, the UK and mainland Europe. (Oral Hearing, Day 2, Pages 124 and 125).

Final Decommissioning

During the course of the oral hearing, the applicant was questioned on the reality of the concept of final decommissioning. The applicant confirmed that the nature of the gas turbine is very similar to the very large jet engine which would be found on a wide bodied passenger airliner. Continuing the analogy, the applicant was asked whether replacing the gas turbine in the present instance would be no more difficult that replacing the engine on the wing of an airliner. The applicant responded that while the principle of the gas turbine was the same as that of an airliner, it was of a much greater magnitude. A typical jet engine would have an output of around 20MW whereas in the present case, the output would be between 250 and 300MW. It was confirmed that it was not just a question of taking one component, such as the gas turbine out and replacing it. Apart from the sheer size of the components, they would be arranged in line in a single shaft. It appears that it is fully valid to talk of final decommissioning and that it is not a question of replacing major components, as necessary, in a manner which would allow the generating plant to continue indefinitely as long as such components were available on the market.

Community Gain

The concept of the imposition of a condition in a grant of permission for a "strategic infrastructure" development requiring payment towards a facility or service that in the opinion of the Board would constitute a substantial gain to the community of the area is introduced in Section 37G(7)(d) of the Planning and Development Act, 2000, as amended by the Planning and Development (Strategic Infrastructure) Act, 2006. This is commonly known as "community gain".

The seeking of a payment in terms of community gain has been sought both by the observers and by the planning authority. The Cheekpoint Community Alliance referred to the 30-month construction period and the 24-month demolition period, as well as the *"continued degradation of the environment and quality of life of the residents of Cheekpoint and area over the life of the plant"*. Elsewhere in their submission they referred to the construction phase of the development having a negative impact on the ability of the village to attract new, or further develop existing, tourism and recreation facilities, enterprises and facilities, due to its protracted period with high levels of noise, dust and general construction activity. This would continue during the separate demolition of the existing plant. Wexford County Council were supportive of a request from the Cheekpoint residents to develop a joint forum covering both counties. It pointed to the existence of established community structures within Wexford. It suggested that New Ross County Community Forum could assist in this regard.

Responding to the initial written submission from the Cheekpoint Community Alliance, the applicant indicated its willingness to comply with any conditions specified by the Board including conditions in relation to community gain. Responding to the initial written submission from the planning authority, the applicant held that there would be substantial community gain in betterment involved in upgrading the local road and water supply system in the County Wexford area. However, it recognised that this betterment would not be realised by the residents of Cheekpoint in County Waterford. The applicant had previously committed to the establishment of a join forum covering Counties Wexford and Waterford to facilitate management of a community gain fund.

During the course of the oral hearing, the applicant recognised the likelihood that in the event of permission being granted it would be required to pay contributions towards works which would be carried out by the planning authority. It was submitted that these contributions would provide significant betterment to the local area and that they should be considered as part of the community gain process. It also recommended that a cross-community forum should be set up including representatives from local communities including Cheekpoint to administer a set fund per annum for a period of three years for the sole purpose of community betterment projects. The applicant referred to the recent decision in the case of Lumcloon Energy Ltd., under 19PA0015, in which the Board had stipulated payment of €50,000 per annum for a period of three years. Taking into consideration the betterment of the road and water infrastructure in the local area, the applicant proposed a community gain fund of €20,000 for three years. (Oral Hearing, Day 1, Pages 56 and 57).

Later during the oral hearing, the applicant submitted that having regard to the established use of the site for decades for power generation in a less environmentally sensitive manner and the decision of the Board to grant permission for the extension of Belview Port extending for significant lengths of the Suir estuary from Belview to Drumdowney opposite Cheekpoint, that it was questionable that there was a case to be made for a specific project based contribution. There would be significant enhancements in the area that would

arise as a result of permitting the proposed development which would represent an associated gain for the community, including security of employment. (Oral Hearing, Day 1, Page 82).

Questioned later again in the oral hearing, the applicant indicated that there would be community gain for Cheekpoint. The applicant referred to the gains which would take place at a broader level than just Cheekpoint, but did refer to the use of best available technology and efficiency and the reduced impact as a result of the change of production method at the site and the removal of the high stacks and their replacement with a single 60 metre stack.

The Cheekpoint Community Alliance, during its submission to the oral hearing held that the employment of construction workers would have no positive socio-economic gain for Cheekpoint. (Oral Hearing, Day 2, Page 62). It urged caution in relation to the practicalities of managing a community gain fund across two counties with differing needs in each community. However, it welcomed Wexford County Council's offer of assistance through advice and the setting up of a community forum utilising their existing experience. (Oral Hearing, Day 2, Page 65).

Responding to a question during the oral hearing, the planning authority confirmed its stance that it would look to the Board for guidance in relation to community gain, from previous applications. On this basis, it suggested that a contribution of €150,000 over the 3 year period would seem to be appropriate. It agreed that it might well be appropriate to extend a payment of €50,000 per annum to cover the demolition period. (Oral Hearing, Day 2, Page 120).

The Cheekpoint Community Alliance considered that community gain should be payable for the lifetime of the plant. It was submitted that in other cases where community gain had been granted, there was a precedent for viewing it in that manner. It was also submitted that community gain for Cheekpoint should be treated separately, as there are differences in the manner in which the two different communities would be impacted. The observer would hold a different view as to how the amount of community gain should be allocated to Cheekpoint, by comparison with those in County Wexford. It was felt that there could be difficulties with a cross-county community forum in terms of practical management, such as choice of venue and deciding between plans which would affect each community, separately.

Cheekpoint Community Alliance referred, at the oral hearing, to a number of projects which they claimed would help to offset the disruption and nuisance caused during the construction period. These were stated to include

- provision of a community centre
- clearance of the river walk
- signposting
- wheelchair access to Minaun viewing point
- improvements to Faithlegg National School
  and
- Improvements to Cheekpoint Harbour.

During its closing submission to the oral hearing Cheekpoint Community Alliance elaborated in relation to community gain. It noted that in the case of the permission for the power plant at Toomes in County Louth, three different villages would all benefit from community gain to the extent of €250,000 per village over a 5 year period. At the other end of the scale, in the case of the waste to energy plant at Ringsend in Dublin, there would be an initial payment of €8 million to the community and an ongoing annual payment based on the tonnage treated. The observer again urged the Board to consider awarding community gain over the lifetime of the plant.

In its closing submission, the applicant noted the most recent precedent, namely that at Lumcloon in County Offaly under 19PA0015. While the applicant believed that there were no road or other improvements for the community in that case, having regard to what had been said by the observers, the applicant was now prepared to suggest a community gain figure similar to that at Lumcloon, namely €50,000 per annum for a period of 3 years. The applicant effectively conceded that there might be a certain logic in dividing this between the two communities, but concluded, in this regard that it could well be a matter which could be dealt with subsequently by agreement between the parties. Asked if it had a view in relation to extending the payment to cover the demolition period, the applicant reiterated its position that the 3 year construction period, similar to Lumcloon, was appropriate.

Neither Kilkenny County Council, nor any individual or group claiming to live in County Kilkenny have made written submissions in relation to the application. I am unaware of the presence of any persons from County Kilkenny being present at the oral hearing. While at least one house at the top of Drumdowney Hill in County Kilkenny would be in full view of the application site, albeit at a greater distance than those in Cheekpoint, I do not consider that persons resident in the nearest parts of County Kilkenny can be considered to be affected, *as a community,* by the proposed development.

I consider that it cannot reasonably be held that there will be no disbenefit to the local community either in County Wexford or at Cheekpoint in County Waterford. There is no definition of the terms "area" or "community" in the Planning and Development Act, 2000, as amended by the Act of 2006. However, in the case of Section 37G(7)(b), I do not consider that these terms could be regarded as referring to anything other than the immediate vicinity or, in the present case, the vicinity of Great Island in County Wexford and the village of Cheekpoint in County Waterford.

I do not consider that the benefits that would accrue to the wider area or even the region, from the new power station and associated gas supply should be regarded as part of the community gain of the residents of the more immediate locality. In the event that the new power station does not proceed, it is inconceivable that these residents would be left without an electricity supply. The gas supply, if it is to benefit anyone other than the applicant, this is likely to be major industrial consumers such as those at

Belview Port, rather than the occupants of low density housing in the countryside, in the case of those living along the road to Great Island, or villagers living in Cheekpoint, separated by the estuary.

The manner in which the two communities in County Wexford and County Waterford would be affected by the proposed development differs greatly. In the case of those in Wexford, the prime impact would be from the traffic generated by construction workers and construction vehicles. In the case of those in County Waterford, the prime impact would be on visual amenity. There would be a much greater visual awareness of an ongoing construction project and, following its completion, the continued presence of a major industrial facility for at least 25 years, although it must be said that with the demolition of the existing plant, the outlook from Cheekpoint would be considerably improved. Both communities would be likely to suffer to some extent from noise, even if within acceptable limits. In the case of Cheekpoint this would be mainly the noise of construction activities. Those in County Wexford would hear both construction noise and the noise of construction traffic.

In the event that it should decide to grant permission for this development, I consider that the sum of €50,000 per annum, as ultimately accepted by the applicant towards the end of the oral hearing, should be regarded as acceptable, but I consider that this should be extended to cover the period of the demolition of the existing plant, following commissioning of the new plant. Construction of the new power plant is anticipated to take 30 months (EIS, Page 11-8). The applicant would apply for planning permission for the demolition of the existing plant within six months of decommissioning (EIS, Page 3-1). Demolition would take 12 months (EIS, Appendix 3, S. 5.10). I consider that the area to be covered by community gain will need to be defined and that the sum to be dispersed should be split equally between the two communities.

In order to place matters in perspective and, having some regard to the requirement at Section 37G(8) of the Planning and Development Act, 2000, as amended by the Act of 2006, that a condition in relation to community gain should not require such an amount of financial resources to be committed for the purposes of the condition as would substantially deprive the person in whose favour the permission operates of the benefits likely to accrue from the grant of permission, the applicant was asked if it could give an estimate of the total cost of the project. The response was that the cost of the new generating plant would be €250 million, the cost of bringing the gas pipeline to "*this part of the southeast*" would be €40 million, which would be entirely at the applicant's expense and the cost of the demolition of the existing plant would be €8.5 million. It was emphasised that all of these figures were very much estimates (Oral Hearing, Day 2, Pages 137 and 138).

Contributions

The planning authority originally sought the contributions from the applicant, as set out in its report on the application. During the course of the oral hearing, it revised downwards from €1 million to €350,000, the special contribution sought in respect of improvements to the local road from Burntschool Crossroads. In the submission at the oral hearing, a specific list of works necessary to upgrade the local road were specified in the planning authority's submission (see "**Traffic**"). The cost of undertaking this work was estimated at €900,000 or €1.1 million depending on whether a Clause 804 surface or a stabilised wetmix surface is adopted. It was then considered that only the bad parts of the road would need to be overlaid, reducing the cost to €500,000. Finally, it was decided that the planning authority should spend €150,000 and that the remainder should be borne by the applicant.

The Great Island Generating Concerns Committee expressed astonishment that costs had been reduced from €1.1 million, as it felt this amount to be a recognition by the planning authority that the road is currently in an extremely poor condition. It was submitted that the full upgrade originally specified by the planning authority was warranted. The planning authority accepted that the cost of overlaying the road could ultimately be more than €500,000, but would not exceed €1.1 million. The planning authority suggested the imposition of a condition requiring regular inspection by the planning authority and that any problems arising as a result of damage from heavy axles would be repaired, entirely at the applicant's expense, whether by digging out or overlaying.

Both the planning authority and the observers concurred that the balance between €500,000 and €1.1 million could be covered by means of a bond.

I consider that it would be appropriate to require the payment of a special contribution towards the initial works to the local road along the line stipulated by the planning authority. The appropriate contribution would seem to be €350,000 for the overlay, but it is unclear if the same 70% apportionment of the costs of the preparatory works should be applied. I agree with the stance of the planning authority in relation to payment for any subsequent works to the road which may arise as a result of damage incurred as a result of construction traffic. A bond should be required in this regard.

CONCLUSION

In conclusion, I consider that the proposed development represents a sensible and logical continuance of electricity generation at the Great Island site in County Wexford. The new generating station would be built on an underutilised, but nevertheless brownfield, area of the existing site. By comparison with the existing power station, the proposed power station would result in a massive reduction in carbon emissions. The temporary loss of the poorly managed woodland at the laydown area would be infinitesimal in terms

of carbon absorption, by comparison with this saving. The proposed development would make continued use of valuable switchyard equipment enclosed within the landholding and would not, in itself, require any additional power lines. Although the proposed development would present a more extensive elevation towards Cheekpoint, it would have a cleaner and less cluttered profile. The single main stack of the power plant, at 60 metres, would be less than half the height of the existing twin 137 metre stacks. The proposed development would more than half the cooling water extraction from and discharge to the estuary.

In the short term, following the completion of the power station, the applicant has given a firm commitment to apply for permission to demolish the existing one. As noted previously, I consider that it would have been preferable that this demolition had been made an integral part of the present application. I am not convinced by the applicant's arguments against such a procedure. However, as also noted previously, I do not consider that this should be sufficient to delay a decision by the Board. I do not consider, either, that it would be appropriate for the Board to attach a condition, in the event of granting permission, requiring that the existing power station should be demolished on commissioning of the new one. The Board should accept the *bona fides* of the applicant in relation to the demolition of the existing power plant. Such demolition and clearance would open up a view through to the rising agricultural lands to the north of the site of the new power plant. It would also provide an opportunity to provide substantial planting between the existing administrative building, which is to be retained, and the new power station. The planting and landscaping of the proposed development is a weakness of the application, but the site is so constricted that it may not be practical to provide planting, where it is most required, to provide screening towards Cheekpoint.

I consider that planning permission should be granted for this development.

RECOMMENDATION

Having regard to the foregoing, I recommend that permission be granted for this development for the reasons and considerations and subject to the conditions set out below.

REASONS AND CONSIDERATIONS

Having regard to:

(a) the provisions of the National Development Plan in relation to security of energy supply,

(b) the strategic goals of the Government White Paper, *"Delivering a Sustainable Energy Future for Ireland"*, published in 2007, which

seeks to ensure secure and reliable electricity and gas supplies and to be prepared for energy supply disruptions,

(c) the National Spatial Strategy, 2002-2020 which seeks to strengthen energy networks in the regions,

(d) the document *"Maximising Ireland's Energy Efficiency – the National Energy Efficiency Action Plan, 2009-2020"*, Department of Communications, Energy and Natural Resources,

(e) the Submission of the Commission for Energy Regulation to the Joint Oireachtas Committee on Climate Change and Energy Security entitled *"Meeting Ireland's Electricity Needs Post 2020 Consultation"*,

(f) the predominantly brownfield nature of the application site and its use as part of an existing power station

(g) the existing electricity infrastructure, including 110KV and 220KV switching yards and high tension power lines, the latter of which would not require augmentation,

(h) the requirement to obtain an Integrated Pollution Prevention and Control (IPPC) licence,

(i) the advice given by the Health and Safety Authority,

and

(j) the mitigation measures set out in the environmental impact statement,

it is considered that, subject to compliance with the conditions below, the proposed development would not seriously injure the amenities of the area or of property in the vicinity, would be acceptable in terms of traffic safety and convenience, would not be prejudicial to public health or safety, would be acceptable in terms of its effects on the environment and would be in accordance with the proper planning and sustainable development of the area.

CONDITIONS

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application as clarified by the drawings presented at the oral hearing and received by An Bord Pleanala on the 31st day of March 2010, except as may otherwise be required in order to comply with the following conditions. Where such conditions require points of detail to be agreed with the planning authority, these matters shall be the subject of written agreement and shall be implemented in accordance with the agreed particulars. In default of agreement, the matter(s) in dispute shall be referred to An Bord Pleanála for determination.

Reason: In the interest of clarity.

2. Save with a subsequent grant of planning permission, the development hereby permitted, subject to any consent procedure which may be applicable at the time, shall be demolished and cleared from the site within 28 years of the date of this permission and the site shall be returned to a condition as close as possible to that of a greenfield site. At least one year before the anticipated closure of the development hereby permitted, details of the closure and site restoration plan shall be submitted to and agreed in writing with the planning authority.

Reason: In the interest of orderly development.

3. Save with a prior grant of planning permission, the application site, and the entirety of the landholding in the same ownership, as indicated in blue on drawing no. 257554/01C/003, shall be used solely for purposes ancillary to and essential to the use of the site for the generation of electricity by means of a combined cycle gas turbine.

Reason: In the interest of orderly development, traffic safety and residential amenity.

4. The proposed development shall incorporate all mitigation measures specified in the submitted environmental impact statement, save where any such mitigation measures relate to emissions to the environment falling within the scope of prevailing Integrated Pollution Control and Prevention licensing, responsibility for which rests with the Environmental Protection Agency.

Reason: In the interest of clarity and to ensure binding commitment to all relevant mitigation measures proposed.

5. Construction and operational heavy goods vehicle traffic shall exit and access the R733 Regional Road via the junction at Burntschool Crossroads, only. Other than the local road linking the site with this junction, there shall be no use of other local roads by heavy goods vehicles associated with the construction or operational phases of the development. Proposed haulage routes for construction traffic shall form part of a Construction Management Plan which shall be agreed with the planning authority in accordance with condition no. 7 below.

Reason: In the interest of traffic safety and residential amenity.

6. The initial filling of the distillate oil storage tank shall be by means of a sea going tanker discharging at the jetty. In the event of an emergency requiring a continuous drawdown exceeding 1,000 cubic metres of distillate oil from the storage tank, this shall be replenished by means of oil discharged at the jetty by sea going tanker.

Reason: To limit heavy goods vehicle traffic generation, in the interest of residential amenity.

7. The construction of the development shall be managed in accordance with a Construction Environmental Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including:

(a) Details of the timing and routing of construction traffic to and from the construction site and associated directional signage;
(b) Measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network;
(c) Details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels;
(d) Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater;
(e) The means of ensuring that surface water run-off is controlled such that no silt or other pollutants enter local surface water sewers or drains;
(f) Details of on-site car parking facilities for site workers during the course of construction;
(g) A dust minimisation plan outlining the dust suppression measures proposed during the construction phase. These measures shall ensure that dust from the site and from site traffic shall not exceed 350mg per square metre per day at the site boundaries;
(h) An emergency response plan detailing procedures to be undertaken during the construction phase of the development, in the event of a spill of chemical, fuel or other hazardous waste on site;
(i) The containment and disposal of foul drainage from all site offices and construction facilities in an appropriate manner to prevent pollution;
(j) The location of all batching and mixing activity in areas well removed from watercourses and drains and the carrying out and containment of washout from the mixers of concrete lorries in designated impermeable areas;
(k) The maintenance of a record of daily checks confirming that works are being undertaken in accordance with the Construction Environmental Management Plan which shall be available for inspection by the planning authority.

Reason: To minimise emissions to the environment from the construction phase of the development and not covered by Integrated Pollution Prevention and Control licensing arrangements in order to protect groundwater and surface water and the general amenities of the area.

8. Site development and building works shall be carried out only between the hours of 08.00 to 20.00 Mondays to Fridays inclusive, between 08.00 to 17.00 on Saturdays and not at all on Sundays and public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written agreement has been received from the planning authority.

Reason: In order to safeguard the residential amenities of property in the vicinity.

9. (a) During the construction phase of the proposed development, the noise level arising from the development, as measured at the nearest dwelling shall not exceed:-

(i) An L_{Aeq1hr} value of 70 dB(A) during the period 0800 to 1900 hours from Monday to Saturday inclusive.

(ii) An $L_{Aeq15\ minutes}$ value of 60 dB(A) during the period 1900 to 2000 hours. The noise at such time shall not contain a tonal component.

(b) All sound measurement shall be carried out in accordance with ISO Recommendation R 1996 "Assessment of Noise with respect of Community Response" as amended by ISO Recommendations R 1996 1, 2 or 3 "Description and Measurement of Environmental Noise" as applicable.

Construction activity outside these hours, other than works required in response to an emergency, shall require the prior written agreement of the planning authority and shall accord with the noise parameters set by the planning authority.

Reason: To protect the residential amenities of property in the vicinity of the site.

10. Prior to commencement of development, the developer shall submit to and agree in writing with the planning authority details of a monitoring plan in relation to surface water, groundwater, dust and noise from the date of commencement of works on site to the date of commissioning of the power station.

Reason: In the interest of clarity and protection of the environment prior to the commissioning of the power station.

11. Construction and demolition waste shall be managed in accordance with a construction waste and demolition management plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall be prepared in accordance with the *"Best Practice Guidelines on the*

Preparation of Waste Management Plans for Construction and Demolition Projects", published by the Department of the Environment, Heritage and Local Government in July 2006. The plan shall include details of waste to be generated during site clearance and construction phases, and details of the methods and locations to be employed for the prevention, minimisation, recovery and disposal of this material in accordance with the provision of the Waste Management Plan for the region in which the site is situated.

Reason: In the interests of sustainable waste management.

12. The site shall be landscaped in accordance with a comprehensive scheme of landscaping, details of which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This scheme shall include the following:

(a) A plan to scale of not less than 1:500 showing –

(i) The species, variety, number, size and locations of all proposed trees and shrubs, which shall comprise predominantly native species such as mountain ash, birch, willow, sycamore, pine, oak, hawthorn, holly, hazel, beech or alder.
(ii) Details of screen planting, which shall not include *cupressocyparis x leylandii.*
(iii) Details of roadside planting.
(iv) Hard landscaping works, specifying surfacing materials, furniture and finished levels.

(b) Specifications for mounding, levelling, cultivation and other operations associated with plant and grass establishment.

(c) A timescale for implementation.

All planting shall be adequately protected from damage until established. Any plants which die, are removed or become seriously damaged or diseased, within a period of 5 years from the completion of the development shall be replaced within the next planting season with others of similar size and species, unless otherwise agreed in writing with the planning authority.

Reason: In the interests of visual amenity.

13. Details, including samples, of the materials, colours and textures of all the external finishes to the proposed buildings and plant shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

Reason: In the interest of the visual amenities of the area.

14. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. Such protection shall include avoidance of any disturbance to the bed of the estuary inside the jetty. In this regard, the developer shall -

(a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation including hydrological and geotechnical investigations relating to the proposed development,

(b) employ a suitably-qualified archaeologist who shall monitor all site investigations and other excavation works, and

(c) provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

15. In the event that it is intended to use cranes which would exceed the height of the existing oil storage tanks above Datum, the developers shall consult with the operators of Waterford Regional Airport and shall comply with their requirements, if any, in relation to lighting or the adoption of luminescent paint.

Reason: In the interest of aircraft safety.

16. Finalised measures (other than the reduced cooling water requirement which is a natural consequence of the combined cycle gas turbine) to minimise the incidence of fish impingement at the cooling water intake shall be submitted to and agreed in writing with the planning authority prior to commencement of development. The agreed measures shall be installed prior to commissioning of the new generating plant.

Reason: In the interests of orderly development.

17. Prior to commencement of development, a community liaison committee shall be established to liaise between the developer and the local communities. The membership of this committee shall reflect membership of the local communities of Cheekpoint and Horeswood (extending to Great Island) and shall include representatives from Waterford County Council, Wexford County Council and the developer. Full details of the committee shall be agreed between the planning authorities and the developer, prior to commencement of

development. The community liaison committee shall have responsibility for the administration of the community gain fund account to be set up in accordance with condition 18 and for decisions on projects to be supported by the fund in addition to acting as a liaison committee with the local communities in relation to ongoing monitoring of the operation of the proposed development.

Reason: To provide for the allocation of resources from the community gain fund in accordance with the requirements of the local community and to provide for appropriate ongoing review of operations at the site in conjunction with the local community.

18. A community gain fund shall be established to support facilities and services which will be of benefit to the communities in the vicinity. The fund shall be made up of four annual payments of €50,000 each (€200,000 in total) commencing on commencement of construction of the facility. The community gain fund shall be divided equally, annually, between the two communities in Counties Wexford and Waterford. Details of the management and operation of the community gain fund, which shall be lodged in a special community fund account, shall be agreed between the planning authorities and the community liaison committee, referred to at condition 17 above.

Reason: It is considered reasonable that the operators of the facility should contribute towards the cost of environmental, recreational or community facilities which will be of benefit to the communities in the area and that the period of this contribution should be commensurate with the total period for the construction of the combined cycle gas turbine generating plant and the demolition of the existing generating plant.

19. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000 that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

20. The developer shall pay to the planning authority a financial contribution as a special contribution under section 48(2) (c) of the Planning and Development Act 2000 in respect of local road widening, drainage and resurfacing/strengthening works on the local road linking the development site with the R733 Regional Road at Burntschool Crossroads. The amount of the contribution shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board for determination. The contribution shall be paid prior to the commencement of the development or in such phased payments as the planning authority may facilitate and shall be updated at the time of payment in accordance with changes in the Wholesale Price Index – Building and Construction (Capital Goods), published by the Central Statistics Office.

Reason: It is considered reasonable that the developer should contribute towards the specific exceptional costs which are incurred by the planning authority which are not covered in the Development Contribution Scheme and which will benefit the proposed development.

21. The developer shall pay to the planning authority a financial contribution as a special contribution under section 48(2) (c) of the Planning and Development Act 2000 in respect of the replacement and rerouting of the existing watermain leading to the site. The amount of the contribution shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board for determination. The contribution shall be paid prior to the commencement of the development or in such phased payments as the planning authority may facilitate and shall be updated at the time of payment in accordance with changes in the Wholesale Price Index – Building and Construction (Capital Goods), published by the Central Statistics Office.

Reason: It is considered reasonable that the developer should contribute towards the specific exceptional costs which are incurred by the planning authority which are not covered in the Development Contribution Scheme and which will benefit the proposed development.

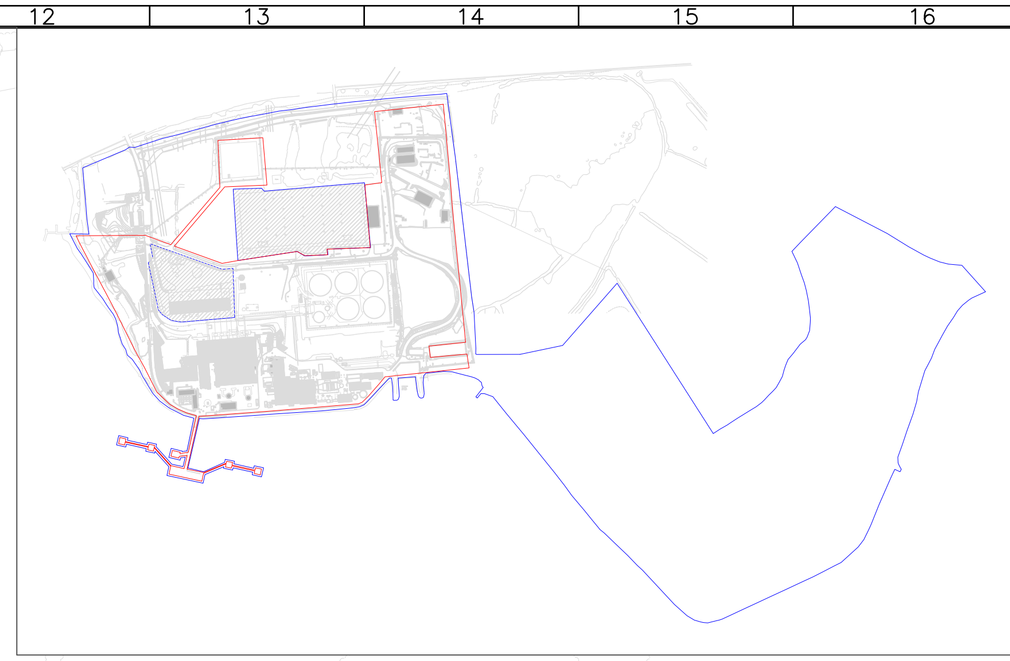
22. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the

planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: In the interest of road safety and the proper planning and sustainable development of the area.

Andrew C. Boyle
Senior Planning Inspector
4th May, 2010.
Cr

Appendix II – Site Map



THIS AREA TO
BE EXCLUDED

THIS AREA TO
BE EXCLUDED

KEY:-

SITE BOUNDARY -
PROPERTY BOUNDARY -

REV	DATE	DRAWN BY	APPROVED BY	AMENDMENTS
10	-	-	-	-
09	-	-	-	-
08	-	-	-	-
07	-	-	-	-
06	-	-	-	-
05	-	-	-	-
04	-	-	-	-
03	-	-	-	-
02	-	-	-	-
01	-	-	-	-

sse Thermal

DRAWING STATUS	FOR INFORMATION
LOCATION	GREAT ISLAND
SCALE	1:7500 & 1:1250
SSE PROJECT NUMBER	
TITLE	CCGT GREAT ISLAND SITE LOCATION PLAN FOR ENVIRONMENTAL LICENCE REVIEW
DRAWN BY	L.SAMUEL
DRAWN DATE	04/05/21
APPROVED BY	J.STOREY
APPROVED DATE	04/05/21
SSE DRAWING NUMBER	859_0802_0011
SHEET	000
REV.	00

Appendix III – Updated Non-Technical Summary

Air I Noise I Water I Soil I Environmental Consultancy
www.axisenv.ie

Unit 5
Caherdavin Business Centre
Ennis Road
Limerick
Ireland
V94 NT63
+353 61 324587
info@axisenv.ie

SSE Generation Ireland Limited

Campile, New Ross, Co Wexford

Non-Technical Summary

Reference Number:	2 - Non Technical Summary
Version:	1
Date of Issue:	06-05-2021

Non-Technical Summary

SSE Great Island Generation Station is located in the townland of Great Island, 3.5km west of Campile village and approximately 15km south of New Ross, Co. Wexford. It is located on the confluence of the River Suir and the River Barrow estuary.

The 464MW natural gas fired Combined Cycle Gas Turbine (CCGT) power plant was constructed within the confines of an ESB power plant. The gas-fired station entered commercial operation in 2015, replacing the former oil-fired station at the site. It is one of the cleanest and most-efficient power stations on the island of Ireland, generating enough electricity to power half a million Irish homes.

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 via a Condenser for re-use in the HRSG. This condenser is cooled by a once through direct cooling system.

The CCGT has a primary fuel source of natural gas directly supplied by Bord Gais, and has the capability to switch to distillate oil as a secondary fuel. Distillate oil is stored in bunded holding tanks on site, filled directly from boats that can operate from the SSE owned jetty.

The installation has been licensed by the EPA to operate in line with the Industrial Emissions Directive and associated BAT and BREF documents. A licence was initially issued to the ESB for operating a power station on site in 2001. In 2011, an Integrated Pollution Prevention and Control Licence was issued to Endesa Ireland Limited for the installation of a CCGT power plant. The licence has undergone 3 technical amendments including change of ownership and updating the licence in line with the Industrial Emissions Directive.

The licensee is now making an application to the EPA to review its licence to account for the following changes:

- Approve the use of emission point SW8 for return of cooling water screen wash waters;
- The reintroduction of storm water line SW7 for discharging uncontaminated rainfall;
- Update the licence in line with Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions under the Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants;
- Amend the frequency for testing oils on storm waters in line with EPA / SSE agreement from daily to monthly;
- Include a discharge condition for SW11 in the licence.

The company is committed to providing electricity generation with a high-quality service in a sustainable way. This is reflected in their accreditation ISO 14001 environmental management system.

Great Island CCGT:

The CCGT operational area occupies approximately 19 acres of the 143 acres of the Great Island Power Plant site. Older buildings from the previous ESB power plant are still in place on site, adjacent to the operational area of the CCGT plant.

The combined cycle process consists of two thermodynamic cycles working together to produce electricity as efficiently as possible. The first cycle comprises a gas turbine and an electrical generator coupled together on one main shaft, which rotates at high speed. The gas turbine consists of a compressor section, a combustion chamber and a turbine section. Air is drawn in through an intake filter, compressed and fed into the combustion chamber where fuel is injected and ignited. The resulting hot combustion gases passing through the turbine section rotate the shaft, driving the compressor and the electrical generator to produce the rated electrical power output. Operation of a gas turbine, as described above, is referred to as open or simple cycle mode.

It is possible to generate approximately 50% more electricity from the hot exhaust gases by passing them through a HRSG or boiler, which uses the heat from the exhaust gases to generate steam, which is fed to a steam turbine. Exhaust gases from the CCGT are discharged to the atmosphere via a stack located at the outlet of the HRSG.

The high pressure steam produced in the HRSG is supplied through inter-connecting pipework to the steam turbine which is coupled to the same generator as the gas turbine (i.e. 'single shaft' design), further driving the generator to produce more electricity. The steam is expanded to vacuum conditions in the steam turbine to extract as much energy as possible. The steam is then fed to the Condenser where it is condensed back to water and fed back to the HRSG to generate more steam thereby conserving water within a closed cycle. The cooling required for the condensing the steam back to water is provided by once through cooling water from the local estuary.

The station is prepared to operate on a continuous basis, 365 days per year with personnel working in shift arrangement. The number of working hours required from this installation is determined by EirGrid, who manage the entire electricity supply network.

The CCGT has a nominal capacity of 464 MW and exports electricity, via an underground cable, to the onsite existing switchyard. The plant normally operates on full load resulting in a plant efficiency of approximately 58%.

Great Island Security:

There is a security building at the entrance to this site which is occupied permanently by security personnel. The installation is enclosed in its entirety by secure perimeter fencing.

Great Island Parking:

Car parking facilities are made available outside the boundary of the installation for most traffic with only permitted vehicles allowable on internal roads.

The installation provides for a second designated car park area inside the boundary at the main offices. The control room, operations and canteen are located in this building.

Contractors who would be on site for longer periods of time in significant development or maintenance projects are provided with a separate contractor's compound for storage, offices and parking within this site boundary.

1. Class of Activity:

The activity falls under Category 2.1: Combustion of fuels in installations with a total rated thermal input of 50MW or more.

2. EIAR/ EIS and Planning Permission Documents

An EIAR has not been complete as part of this particular application. An EIA was complete as part of the original application and is on public file with the EPA. A copy of the EIA has been submitted to the Agency as part of this licence review. Planning permission is in place for the current activity and evidence has been included in the application to support this.

3. BAT Guidance Documents Assessed:

Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants.

4. Emissions

4.1 Emissions to Atmosphere

There is one main emission point from the CCGT. The plant operates on natural gas, but has the capability to operate with distillate oil in case of a change in circumstance requiring a change in fuel.

Parameter	Test Frequency as per licence	Daily Licensed Emission Limit Value	Units	Abatement
A2-1 On Natural Gas				
Oxides of Sulphur	Continuous	10	mg/m^3	N/a
Nitrogen oxides	Continuous	50	mg/m^3	N/a
Dust	Continuous	5	mg/m^3	N/a
Carbon Monoxide	Continuous	100	mg/m^3	N/a
Emission Volume	Continuous	2,756,520	m^3 / hr	N/a
A2-1 On Gas Oil				
Oxides of Sulphur	Continuous	50	mg/m^3	N/a
Nitrogen oxides	Continuous	90	mg/m^3	N/a
Dust	Continuous	20	mg/m^3	N/a
Carbon Monoxide	Continuous	100	mg/m^3	N/a
Emission Volume	Continuous	2,987,280	m^3 / hr	N/a

- The value of the 95% confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

  Nitrogen Oxides (as NO_x) 20%;
  Carbon Monoxide (CO) 10%;
  Sulphur dioxide (as SO_2) 20%;
  Dust (Particulate Matter) 30%.

- The validated hourly and daily average values shall be determined from the measured valid hourly average value after having subtracted the value of the confidence interval specified above. Any day's results in which more than three hourly average values are invalid due to malfunction or maintenance of the continuous measurement system shall be invalidated. If more than 10 days a year are invalidated the licensee shall take action as appropriate to improve the reliability of the continuous monitoring system;

- No validated daily average value shall exceed 110% of the emission limit value;

- 95% of all the validated hourly average values over the year shall not exceed 200% of the emission limit value;
- No validated monthly average value shall exceed the emission limit value.

4.2 Emissions to Water

SW2 – Condenser Cooling Water

There are no changes requested to the existing licensed emission point. The same volumetric discharge and concentration limits are to be applied in the amended licence.

Parameter	Test Frequency	Licensed Emission Limit Value	Abatement
Temperature	Continuous	12ºC above estuarine water; 10ºC (98%ile of hourly values over a year)	N/a
Chlorine	Weekly	0.3 mg/l	N/a
Emission Volume	Continuous	33,000 m^3/hr, 792,000 m^3/day	N/a

SW3a – Foul Water Treatment System

There are no changes requested to the existing licensed emission point. The same volumetric discharge and concentration limits are requested for the amended licence.

Parameter	Test Frequency	Licensed Emission Limit Value	Abatement
pH	Daily	6 – 10	Wastewater Treatment plant
BOD	Bi-annual	25 mg/l	
Suspended Solids	Bi-annual	35 mg/l	
Ammonia	Bi-annual	5 mg/l as N	
Total Phosphorous	Bi-annual	2 mg/l as N	
Emission Volume	-	9.5 m^3/day	

SW8 – Cooling Water Screen Wash Water

One of the reasons for a licence review is to reintroduce this emission point into the licence schedules. This point was to cease discharging on commencement of the CCGT, however it is requested to retain this point on the amended licence. There are no changes requested to the existing licensed emission point. The same volumetric discharge and concentration limits would be applied in the amended licence, although it is acceptable to reduce the chlorine concentration from 0.5 mg/l to 0.3mg/l in line with SW2. There will be no impact from the reintroduction of this discharge location, as the water from this point was to be combined and discharged via SW2.

Parameter	Test Frequency	Licensed Emission Limit Value	Abatement
Chlorine	Quarterly	0.5 mg/l	N/a
Volume	-	1,970 m^3/day	

SW13 Process Wash Water

There are no changes requested to the existing licensed emission point. The same limits are to be applied in the amended licence.

Parameter	Test Frequency	Licensed Emission Limit Value	Abatement
pH	Continuous	6 – 9	Holding tank with continuous metering systems – batch discharge used
BOD	Monthly	20	
Suspended Solids	Quarterly	30	
Mineral Oil	Monthly	20	
Ammonia (as N)	Quarterly	5	
Phosphorous (as P)	Monthly	5	

4.3 Storm water Emissions

There are five (5) storm water emission points at the installation that discharge rainwater to the Barrow estuary. One of the reasons for the application for a licence review was to include storm water emission point SW7 into the licence.

Parameter	Test Frequency	Licensed Emission Limit Value	Abatement
SW1			
TPH	Amend to Monthly	N/a	Oil and silt interceptor
Suspended Solids	Monthly	N/a	
SW3b			
TPH	Amend to Monthly	N/a	Oil and silt interceptor
Suspended Solids	Monthly	N/a	
SW4			
TPH	Amend to Monthly	N/a	Oil and silt interceptor
Suspended Solids	Monthly	N/a	
SW12			
TPH	Amend to Monthly	N/a	Oil and silt interceptor
Suspended Solids	Monthly	N/a	
SW7			
TPH	Monthly	N/a	Oil and silt interceptor
Suspended Solids	Monthly	N/a	

4.4 Emissions to Ground

There has been a wastewater treatment plant installed in the contractor compound to treat effluent from toilets and canteen. Specific details of the wastewater treatment plant have been included in this application. Treated effluent from the plant are discharged to ground via a designed percolation area.

4.5 Noise Emissions

Noise has not been an issue from this installation since its commencement. The licence will be amended to account for evening time noise as applied in new licences and the EPA guidance note NG4.

Parameter	Test Frequency	Licensed Emission Limit Value $L_{Aeq,r}$
Broadband Noise	Annual	55 dB Day / 50dB Evening / 45dB Night
Tonal Noise Assessment	Annual	None
Impulsive Noise	Annual	None

5. EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2006

The licensee has assessed the activities carried out and determined that the installation is classified as a Seveso site under SI 74 of 2006 which gives effect to European Directive 96/82/EU (Seveso II Directive). The installation is classified as a lower tier establishment. All aspects of this Regulation are implemented, assessed and addressed to ensure compliance with the specific requirements.

6. Derogation under Section 86A(6)

Not Applicable

7. Fuels

The site operates primarily on Natural gas, directly supplied by transmission network therefore there is no storage of gas at the installation.

The CCGT has the capability to operate on gas oil stored as back up in case of interruption to the gas supply, or other irregularity in the market. Gas oil is stored and bunded in line with the standard requirements and the EPA Guidance note “Storage and Transfer of Materials for Scheduled Activities”.

8. Energy and Water

Electricity used to power plant and buildings is obtained from the national grid.

Potable water used in the process is obtained from Wexford County Council public supply. The water is stored in a service reservoir prior to treatment. Demineralised water used as feed water for the HRSG is produced from the water treatment plant.

Cooling water is obtained from the Barrow estuary in accordance with existing licence conditions. This water is subsequently returned to the estuary via SW2 with back wash water from the inlet screen discharged via SW8.

9. Raw Materials

There is a small range of raw materials used on site. Any liquid materials which could potentially have an environmental consequence are stored in purpose designed and covered bunds. A list of all the materials used on site have been included in the body of this application.

10. Baseline Condition of the site

SSE has in general uncontaminated soil and ground water within the installation boundary. There is however an area of land which was used by previous owners between the 1960s – 1990s for waste disposal activities. The installation was originally utilised by the ESB for power generation, consuming heavy fuel oil.

These areas do not form part of the CCGT, and the CCGT does not interact with these areas in any way, however they are monitored as part of IE Licence requirements and therefore have been considered as part of this licence review.

There is contamination in the groundwater wells at the installation. The site will continue monitoring the wells for specific parameters as required by the Agency in line with existing licence arrangements. There is no immediate requirement for remediation unless the site would intend to change its use. The contamination is not or was not associated in any way with operations by SSE or the CCGT.

11. Waste

Waste is controlled by the waste management hierarchy. At all stages prevention of waste is the key goal of SSE. Where materials can be reused or recycled they are to improve efficiency and reduce ram material inputs. Disposal is the last route of choice for the waste materials at the installation. Assessment of waste management is a key part of the environmental management system ISO 14001 on site. This is reviewed routinely and externally audited on an annual basis.

Hazardous wastes generated by the installation include waste oil, waste acid and alkali, cleaning waste and waste electrical and electronic waste. Non–hazardous waste includes municipal waste (canteen and office waste) and effluent treatment sludge's. Waste recovery and disposal is controlled by licence conditions which require the waste to be transferred to authorised waste recovery/disposal facilities.

Detailed waste registers are maintained and submitted to the Agency in summarised form, as part of the annual environmental report.

12. Standards

The CCGT has had an IPPC / IE licence since prior to commencing operations. It has therefore operated under strict conditions as applied by the EPA and been subject to routine audits by the EPA.

The company has implemented and operates an accredited Environmental Management System, ISO 14001. This is externally audited and the site verified as compliant with the conditions of the standard for operation of this installation in an environmentally sound manner.