

EPA Headquarters,
PO Box 3000,
Johnstown Castle Estate,
Co. Wexford
Ireland

Date: December 6th, 2011

Re.: Proposed Determination, IPPCL P0606-03

Dear Sir/Madam,

Endesa Ireland (Endesa) would like to welcome the Proposed Determination with respect to the licence review application for Great Island generating station, licence number P0606-03. Endesa look forward to complying with all the emission limits set out, both for the current Heavy Fuel Oil (HFO) plant and for the proposed Combined Cycle Gas Turbine (CCGT) plant.

As part of plant optimisation during our recent detailed design process we are now in a position to further refine temperatures and volumes with respect to the steam turbine process which results in a positive impact on the current temperature-rise in the estuary. As a result of this detailed design process, Endesa would like to request an alteration to the Proposed Determination of IPPCL P0606-03 with respect to the cooling water temperature rise of the Combined Cycle Gas Turbine (CCGT), once commissioned.

The parameters and temperatures associated with the cooling water outfall are presented in Schedule B, *Emission Limits*, B.2 *Emissions to Water*, SW2, with respect to Condition 5 in the Proposed Determination of IPPCL P0606-03 for the Great Island generating site. The licence incorporates a 15°C rise above estuarine water (12°C 98%ile of hourly values over a year) associated with the cooling water outfall, "SW2". As a result of our detailed engineering and plant optimisation Endesa have established that this figure can be improved upon and would like to reduce the temperature rise to 12°C maximum and 10°C 98%ile of hourly values over the year. This reduction in temperature rise can be achieved while also improving on the thermal load in the receiving waters. We would therefore like to reduce the Thermal Load from 352 MWth (maximum), 335 MWth (98%ile of hourly values over the year) to 330MWth (maximum), 316MWth (98%ile of hourly values over the year). We are proposing these positive environmental alterations as a result of the use of Best Available Techniques and focused

engineering on the condenser design and overall cycle efficiency. We were unable to commit to these improved temperature values at the time of the licence review application as detailed design and plant optimisation was not complete.

In order to achieve the improvement in thermal rise and absolute temperatures in the estuary we need to increase the cooling water flow through the condenser as outlined in the proposed determination (note- we are requesting an increase in volume from the Proposed Determination figures but this will result in a significant reduction in volume from current plant operation figures). In the proposed determination, a volume of 25,000m³ per hour as per the licence review application has been retained. The current Heavy Fuel Oil (HFO) plant uses 50,000m³ of cooling water per hour. Endesa would like to reduce this to 33,000m³ of cooling water per hour. Although this alteration represents an increase with respect to the cooling water flow in the proposed licence, it importantly represents a significant (34%) reduction in cooling water flow with respect to the current volumes while also achieving a reduction in temperature rise and thermal load in the estuary.

Having regard to the proposed Chlorine limit as specified, the optimisation on the condenser design will not influence our ability to comply with the revised emission limit value as specified in the Proposed Determination.

Please find attached amended table for SW2, if you have any questions regarding the above request, please do not hesitate to contact me.

Best Regards,



Peter Gavican

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TABLE E.2(i): EMISSIONS TO SURFACE WATERS

(One page for each emission)

Emission Point:

Emission Point Ref. N ^o :	SW2
Source of Emission:	Cooling Water System
Location :	Cooling Water Outfall
Grid Ref. (12 digit, 6E,6N):	E 269030, N 114580
Name of receiving waters:	Barrow estuary
Flow rate in receiving waters:	Due to variable flow of the dynamic estuary and tidal conditions it is not appropriate to state exact figures for flow rates. Indicative flow rates are contained in section 3.2.4.2 of the hydrodynamic modelling report in the original application
Available waste assimilative capacity:	(Not available) kg/day

Emission Details:

(i) Volume to be emitted			
Normal/day	792,000 m ³	Maximum/day	792,000 m ³
Maximum rate/hour	33,000 m ³		

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

Periods of Emission (avg)	60_min/hr 24_hr/day 365_day/yr
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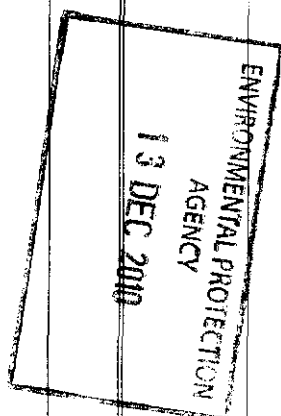


TABLE E.2(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission (1 table per emission point)

Emission point reference number: SW2 (Cooling water system)

Parameter	Prior to treatment				As discharged				% Efficiency	
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year		
Temperature	-	-	-	-	Max. change in temperature above normal conditions = 10 °C					-
Chlorine	-	-	-	-	0.3	0.3	237	86,724	-	

Thermal Load: 330 MWth (Maximum), 316MWth (98%ile of hourly values over the year).

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