This memo has been cleared for submission to the Board by the Programme Manager F. Clinton
Signed: Sonja Smith Date: 25/02/11

OFFICE OF CLIMATE, LICENSING & RESOURCE USE

REPORT OF THE TECHNICAL COMMITTEE ON OBJECTIONS TO LICENCE CONDITIONS

TO:	Directors	
FROM:	Technical Committee	**Environmental Licensing Programme**
DATE:	22/02/2011	
RE:	Objection to Proposed Determination for **Endesa Ireland Limited (Great Island)**, IPPC Reg: **P0606-03**	

Application Details	
Class(s) of activity:	*The operation of combustion installations with a rated thermal input equal to or greater than 50MW.*
Location of activity:	Campile, New Ross, Co. Wexford.
Licence application received:	10/05/2010
PD issued:	17/11/2010
First party objection received:	13/12/2010
Third Party Objection received	None received.
Submissions on Objections received:	None received.

Company

Endesa Ireland Limited (Great Island) generating station is located in the townland of Great Island, 3.5km west of Campile village, which is approximately 15km south of New Ross, Co Wexford. The installation was originally licensed in January 2003 (Reg. No. P0606-01) and reviewed in January 2005 (Reg. No. P0606-02).

This application for a review (Reg. No. P0606-03) was made to allow for the replacement of the existing 240 MW Heavy Fuel Oil (HFO) fired power plant with a natural gas fired 430MW Combined Cycle Gas Turbine (CCGT) power plant. The proposed location of the new CCGT power plant is within the boundaries of the current licensed (P0606-02) site. Once the proposed CCGT is fully commissioned, the existing plant will be decommissioned.

Only one submission was received in relation to the application and this was considered by the Board at Proposed Determination (PD) stage.

One first party objection was received in relation to the PD. No third party objections were received.

Consideration of the Objection

The Technical Committee, comprising of Pamela McDonnell (Chair) and Marie O'Connor, has considered all of the issues raised in the Objections and this report details the Committee's comments and recommendations following the examination of the objections together with discussions with the inspector, Una O'Callaghan, who also provided comments on the points raised.

This report considers the first party objection, as received on the 13th December 2010.

First Party Objection

A.1. Schedule B.2 – Emissions to Water

The applicant has recently refined the design of the proposed CCGT steam turbine process and its cooling water requirements. Therefore, the applicant requests a number of alterations to Schedule B.2 Emissions to Water, with respect to the spent cooling water (SW2) which will discharge into the Barrow Estuary.

Schedule B.2 requires that:

(a) The temperature of the SW2 discharge is limited to **15°C** above estuarine water and **12°C** for 98%ile of hourly values over a year.

(b) The thermal load is limited to **352 MW_{th}** (maximum) and **335 MW_{th}** (98%ile of hourly values over a year).

(c) On the date of commencement of commercial operation of the new CCGT, the maximum rate per hour of the cooling water discharge is reduced from 50,170m^3 to **25,000m^3**.

In their objection, the applicant states that by increasing the flow of cooling water through the condenser of the new CCGT plant, they can further reduce cooling water temperatures, which will reduce thermal rise and absolute temperatures in the estuary.

Therefore the applicant requests the following changes in Schedule B.2, to apply following commencement of commercial operation of the new CCGT:

(a) That the temperature emission limit value (ELV) for the SW2 discharge is reduced to **12°C** above estuarine water and **10°C** for 98%ile of hourly values over a year.

(b) That the thermal load emission limit value is reduced to **330 MW_{th}** (maximum) and **316 MW_{th}** (98%ile of hourly values over a year).

(c) That the maximum rate per hour of the cooling water discharge is increased to **33,000m^3**.

At the time of the licence review application, the applicant could not commit to these improved temperature values as detailed design and plant optimisation were not complete. They state that the Chlorine ELVs, as per Schedule B.2 of the PD, can still be achieved despite the volume and temperature changes proposed.

Submission(s) on Objection: None

Technical Committee's Evaluation:

The hydrodynamic modelling carried out for the purposes of the review application (P0606-03) concluded that the cooling water from the existing HFO plant (at 50,170m^3/hr, 15°C above ambient, 352 MW_{th}) is not causing an impact on the estuary, and that the cooling water

from the new CCGT plant (at 25,000m^3/hr, 15°C above ambient, 352 MW_{th}) will reduce the extent and temperature of the thermal plume on the estuary and will not have a significant adverse impact on the receiving environment when compared to the existing situation.

The applicants newly proposed cooling water discharge rate of 33,000m^3 from the CCGT plant is still considerably lower than the discharge currently occurring into the estuary (50,170m^3). In addition, as the applicant proposes to further decrease the temperature of the cooling water from the new plant, then the extent of the thermal plume in the estuary will still be reduced. Therefore it is considered that the new temperatures and discharge rate proposed for SW2 when the new plant is commissioned will not have a significant adverse impact on the receiving environment when compared to the existing situation.

There is also a clerical error in the Schedule B.2 table pertaining to SW2, whereby Condition 5.6 is referred to instead of Condition 5.7, which stipulates the maximum predicted temperature increase in the estuary. This error should be rectified accordingly. Condition 5.7 satisfies the requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009 with regard to thermal conditions in surface water. All other aspects of these Regulations are addressed in the Inspectors Report for Proposed Determination P0606-03, and are unaffected by the amendments proposed below.

Recommendation:

Schedule B.2 Emissions to Water should be amended to read as follows:

Emission Point Reference No: SW2-Condenser Cooling Water
Name of Receiving Waters: Barrow Estuary
Location: 269030E,114580N

Volume to be emitted:	Maximum in any one day:	1,204,080m^3	600,000 m^3 Note 1
	Maximum rate per hour:	50,170m^3	**33,000** m^3 Note 1

Parameter	Emission Limit Value	
Temperature	**15°C** above estuarine water **12 °C** (98%ile of hourly values over a year) See also Condition **5.7**	**12°C** above estuarine water Note 2 **10°C** (98%ile of hourly values over a year) Note 2 See also Condition **5.7**
Thermal Load	**352** MW_{th}(maximum) **335** MW_{th} (98%ile of hourly values over a year)	**330** MW_{th}(maximum) Note 2 **316** MW_{th} (98%ile of hourly values over a year) Note 2
	mg/l	
Chlorine	0.5mg/l	0.3mg/l Note 2

Note 1: This discharge rate shall apply from the date of commencement of commercial operation of the new CCGT.
Note 2: The emission limit value shall apply from the date of commencement of commercial operation of the new CCGT.

Overall Recommendation

It is recommended that the Board of the Agency grant a licence to the applicant

(i) for the reasons outlined in the Proposed Determination, and,
(ii) subject to the conditions and reasons for same in the Proposed Determination, and,
(iii) subject to the amendments proposed in this report.

Signed

Pamela McDonnell

for and on behalf of the Technical Committee