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**INTEGRATED POLLUTION PREVENTION & CONTROL LICENCE**  
**Recommended Determination**

<b>Licence Register Number:</b>	<b>P0561-05</b>
<b>Licensee:</b>	<b>Electricity Supply Board</b>
<b>Location of Installation:</b>	<b>Aghada Generating Station Whitegate Midleton County Cork</b>

## ***INTRODUCTION***

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

**Aghada Generating Station is located on the eastern shore of Cork Harbour.**

**The plant has five generating units, giving a total electricity generating capacity of 975MWe. Unit 1 is a 270 MWe conventional steam generation unit, whilst CT11, CT12, and CT14 are three open cycle combustion turbines with a nominal generating capacity of 85MWe. The gas –fired combined cycle gas turbine (CCGT) has a nominal generating capacity of 450MWe. Unit 1, the three CTs and the CCGT are fired on natural gas, with gasoil used as a standby fuel for the combustion turbines only.**

**The installation falls within the scope of category 1.1 (combustion installations with a rated thermal input exceeding 50MW) of Annex I of Council Directive 2008/1/EC (IPPC Directive), and is regulated under the emissions trading scheme.**

**The licence sets out in detail the conditions under which Electricity Supply Board (Aghada) will operate and manage this installation.**

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## ***Glossary of Terms***

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 to 2012 / Waste Management Acts 1996 to 2012, unless otherwise defined in the section.

<b>Adequate lighting</b>	<b>20 lux measured at ground level.</b>
<b>AER</b>	Annual Environmental Report.
<b>Agreement</b>	Agreement in writing.
<b>Annually</b>	All or part of a period of twelve consecutive months.
<b>Application</b>	The application by the licensee for this licence.
<b>Appropriate Facility</b>	<b>A waste management facility, duly authorised under relevant law and technically suitable.</b>
<b>Attachment</b>	<b>Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.</b>
<b>BAT</b>	Best Available Techniques.
<b>Biannually</b>	At approximately six – monthly intervals.
<b>Biennially</b>	Once every two years.
<b>BOD</b>	5 day Biochemical Oxygen Demand (without nitrification suppression).
<b>CCGT</b>	Combined cycle gas turbine.
<b>CEN</b>	Comité Européen De Normalisation – European Committee for Standardisation.
<b>CO</b>	Carbon Monoxide.
<b>COD</b>	Chemical Oxygen Demand.
<b>Containment boom</b>	A boom that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
<b>Daily</b>	During all days of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
<b>Day</b>	Any 24 hour period.
<b>Daytime</b>	0800 hrs to 2200 hrs.

<b>dB(A)</b>	Decibels (A weighted).
<b>DO</b>	Dissolved oxygen.
<b>DOAS</b>	Differential optical absorption spectroscopy.
<b>Documentation</b>	<b>Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.</b>
<b>Drawing</b>	<b>Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.</b>
<b>Emission limits</b>	<b>Those limits, including concentration limits and deposition rates, established in <i>Schedule B: Emission Limits</i>, of this licence.</b>
<b>EMP</b>	Environmental Management Programme.
<b>Environmental damage</b>	As defined in Directive 2004/35/EC.
<b>EPA</b>	Environmental Protection Agency.
<b>European Waste Catalogue (EWC)</b>	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
<b>Facility</b>	<b>Any site or premises used for the purpose of the recovery of disposal or waste.</b>
<b>Fortnightly</b>	<b>A minimum of 24 times per year, at approximately two week intervals.</b>
<b>GC/MS</b>	<b>Gas chromatography/mass spectroscopy.</b>
<b>Gas Oil</b>	<b>Gas Oil as defined in Council Directive 1999/32/EC and meeting the requirements of S.I. No. 119 of 2008.</b>
<b>Heavy metals</b>	<b>This term is to be interpreted as set out in “Parameters of Water Quality, Interpretation and Standards” published by the Agency in 2001. ISBN 1-84095-015-3.</b>
<b>Hours of operation</b>	<b>The hours during which the installation is authorised to be operational.</b>
<b>ICP</b>	<b>Inductively coupled plasma spectroscopy.</b>

<b>Incident</b>	<b>The following shall constitute as incident for the purposes of this licence:</b> <ul style="list-style-type: none"><li>(i) <b>an emergency;</b></li><li>(ii) <b>any emission which does not comply with the requirements of this licence</b></li><li>(iii) <b>any trigger level specified in this licence which is attained or exceeded; and,</b></li><li>(iv) <b>any indication that environmental pollution has, or may have, taken place.</b></li></ul>
<b>Installation</b>	<b>A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 to 2011 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.</b>
<b>IPPC</b>	Integrated Pollution Prevention & Control.
<b>K</b>	Kelvin.
<b>kPa</b>	Kilopascals.
<b>L<sub>eq</sub></b>	Equivalent continuous sound level.
<b>Licensee</b>	Electricity Supply Board, Aghada Generating Station, Whitegate, Midleton, County Cork.
<b>Lighting-up time</b>	30 minutes after sun set.
<b>List I</b>	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
<b>List II</b>	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
<b>Local Authority</b>	Cork County Council.
<b>Maintain</b>	<b>Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.</b>
<b>Mass flow limit</b>	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
<b>Mass flow threshold</b>	A mass flow rate above which a concentration limit applies.
<b>Monthly</b>	A minimum of 12 times per year, at intervals of approximately one month.
<b>NERP</b>	National Emission Reduction Plan.

<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Noise-sensitive location (NSL)</b>	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
<b>ppm</b>	Parts per million.
<b>PRTR</b>	<b>Pollutant Release and Transfer Register.</b>
<b>Quarterly</b>	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
<b>Sample(s)</b>	<b>Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.</b>
<b>Sanitary effluent</b>	<b>Wastewater from installation toilet, washroom and canteen facilities.</b>
<b>SOP</b>	Standard operating procedure.
<b>SPA</b>	Special Protection Area.
<b>Specified emissions</b>	<b>Those emissions listed in <i>Schedule B: Emission Limits</i>, of this licence.</b>
<b>Standard method</b>	A National, European or internationally recognised procedure (e.g. I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.
<b>Storm water</b>	<b>Rain water run-off from roof and non-process areas.</b>
<b>The Agency</b>	Environmental Protection Agency.
<b>TOC</b>	<b>Total organic carbon.</b>
<b>Trade effluent</b>	<b>Trade effluent has the meaning given in the Water Services Act, 2007.</b>
<b>Trigger level</b>	<b>A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.</b>
<b>Water Services Authority</b>	<b>Cork County Council Southern Division.</b>
<b>Weekly</b>	During all weeks of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
<b>WWTP</b>	Waste water treatment plant.

## ***Decision & Reasons for the Decision***

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 83(5) of the Environmental Protection Agency Acts 1992 to 2012.

In reaching this decision the Environmental Protection Agency has considered the **review** and supporting documentation received from the applicant, and the report of its inspector.

### ***Part I Schedule of Activities Licensed***

In pursuance of the powers conferred on it by the Environmental Protection Agency Acts 1992 to 2011, the Agency proposes to determine the review of the existing licence (Reg. No. P0561-04) granted to: Electricity Supply Board, 27 Lower Fitzwilliam Street, Dublin 2,

under Section 90(2) of the said Acts to carry on the following activity:

- :- the operation of combustion installations with a rated thermal input equal to or greater than 50MW,

at Aghada Generating Station, Whitegate, Midleton, County Cork subject to the following twelve Conditions, with the reasons therefor and associated schedules attached thereto.

### ***Part II Schedule of Activities Refused***

**None of the proposed activities as set out in the licence application have been refused.**

## ***Part III Conditions***

### **Condition 1. Scope**

- 1.1 **IPPC activities at this installation shall be restricted to those listed and described in *Part I Schedule of Activities Licensed*, and shall be as set out in the licence application or as modified under Condition 1.4 of this licence and subject to the conditions of this licence.**
- 1.2 **Activities at this installation shall be limited as set out in *Schedule A: Limitations, of this licence*.**
- 1.3 For the purposes of this licence, the installation authorised by this licence is the area of land outlined in Drawing No. P378310-D1-01 which was submitted to the Agency on the 1<sup>st</sup> November 2010 **in accordance with licence register number P0561-04**. Any reference in this licence to “installation” shall mean the area thus outlined. The licensed activity shall be carried on only within the area outlined.
- 1.4 No alteration to, or reconstruction in respect of, the activity, or any part thereof, that would, or is likely to, result in
- (i) a material change or increase in:
- the nature or quantity of any emission;
  - the abatement/treatment or recovery systems;
  - the range of processes to be carried out;
  - the fuels, raw materials, intermediates, products or wastes generated, or
- (ii) any changes in:
- site management, infrastructure or control with adverse environmental significance;
- shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.5 The installation shall be controlled, operated and maintained, and emissions shall take place as set out in the licence. All programmes required to be carried out under the terms of this licence become part of this licence.
- 1.6 This licence is for the purpose of IPPC licensing under the EPA Acts 1992 to 2012 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements under any other enactments or regulations.
- 1.7 This licence has been granted in substitution for the licence granted to the **licensee on 13 December 2004 (Register No P0561-04)**. The previous IPPC licence (**Reg No. P0561-04**) is superseded by this revised licence.

**Reason:** *To clarify the scope of this licence.*

### **Condition 2. Management of the Installation**

- 2.1 Installation Management
- 2.1.1 The licensee shall employ a suitable qualified and experienced installation manager who shall be designated as the person in charge. The installation manager or a nominated, suitably qualified and experienced deputy shall be present on the installation at all times during its operation or as otherwise required by the Agency.
- 2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this licence.

## 2.2 Environmental Management System (EMS)

2.2.1 The licensee shall **maintain** an Environmental Management System (EMS) which shall fulfill the requirements of this licence. The EMS shall assess all operations and review all practicable options for the use of cleaner technology, cleaner production and the reduction and minimisation of waste, and shall include as a minimum those elements specified in the conditions 2.2 to 2.9 below. The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include, as a minimum, the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall **maintain** a Schedule of Environmental Objectives and Targets. The schedule shall, as a minimum, provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, and the prevention, reduction and minimisation of waste and shall include waste reduction targets. The schedule shall include time frames for the achievement of set targets and shall address a five-year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall **maintain** an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be **maintained** by the licensee. It shall include:

- designation of responsibility for targets;
- the means by which they may be achieved;
- the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

- (i) The licensee shall **maintain** an environmental management documentation system which shall be to the satisfaction of the Agency.
- (ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall **maintain** procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

#### 2.2.2.7 Communications Programme

The licensee shall **maintain** a Public Awareness and Communications Programme to ensure that members of the public can obtain information at the installation, at all reasonable times, concerning the environmental performance of the installation.

#### 2.2.2.8 Maintenance Programme

The licensee shall establish and maintain a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

#### 2.2.2.9 Efficient Process Control

The licensee shall establish and maintain a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

*Reason: To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.*

### Condition 3. Infrastructure and Operation

**3.1** The licensee shall establish and maintain, for each component of the installation, all infrastructure referred to in this licence or as required by the conditions of this licence. Infrastructure specified in the application that relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.

#### **3.2** Installation Notice Board

**3.2.1** The licensee shall, within one month of the date of grant of this licence, provide an Installation Notice Board on the installation so that it is legible to persons outside the main entrance to the installation. The minimum dimensions of the board shall be 1200 mm by 750 mm. The notice board shall be maintained thereafter.

**3.2.2** The board shall clearly show:

- (i) the name and telephone number of the installation;
- (ii) the normal hours of operation;
- (iii) the name of the licence holder;
- (iv) an emergency out of hours contact telephone number;
- (v) the licence reference number; and
- (vi) where environmental information relating to the installation can be obtained.

**3.3** The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

- 3.4 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. The requirement with regard to off-site points is subject to the prior agreement of the landowner(s) concerned.
- 3.5 Tank, Container and Drum Storage Areas
- 3.5.1** All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. **Bunds shall be designed having regard to Agency guidelines ‘Storage and Transfer of Materials for Scheduled Activities’ (2004).**
- 3.5.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:
- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
  - (ii) 25% of the total volume of substance that could be stored within the bunded area.
- 3.5.3 **All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise.** All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.5.4 **All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.**
- 3.5.5 **All tanks, containers and drums shall be labelled to clearly indicate their contents.**
- 3.6 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the installation. Once used, the absorbent material shall be disposed of at an appropriate facility.
- 3.7 **Oil Separators**
- The licensee shall maintain oil separators at the installation. The separators shall be in accordance with I.S. EN-858-2: 2003 (separator systems for light liquids) unless otherwise agreed with the Agency.**
- 3.8 All pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, shall be fitted with high liquid level alarms (or oil detectors as appropriate).
- 3.9 The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a Schedule of Environmental Objectives and Targets set out in Condition 2. of this licence for the reduction in fugitive emissions.
- 3.10 **All wellheads, shall be adequately protected to prevent contamination or physical damage.**
- 3.11 The licensee shall **maintain** in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 3.12 **Any waste water treatment system with or without a percolation area for the treatment of sanitary effluent arising on-site, shall satisfy the criteria set out in the Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses ( $p.e \leq 10$ ), published by the Environmental Protection Agency.**
- 3.13 **Natural gas shall be used in the power plants at the installation. In the event of an interruption to the supply of natural gas, or for testing purposes as may be required by the Commission for Energy Regulation, gas oil may be used.**
- 3.14 The sulphur content of distillate used **on site** shall not exceed 0.1%.
- 3.15 In the event of a breakdown or malfunction of any abatement equipment the licensee shall either:
- (a) Reduce or close down operations if a return to normal is not achieved within 24 hours, **such action shall be undertaken in liaison with the Commission for Energy Regulation;** or
  - (b) Operate the plant using low polluting fuels, **and**

(c) **Record the duration of unabated operation.**

- 3.16 **Under no circumstances shall the cumulative duration of unabated operation in any twelve-month period exceed 120 hours without prior written approval of the Agency.**
- 3.17 The licensee shall include in the Environmental Management Plan (See Condition 2.2) the site specific measures to be taken to deliver the targets contained within the NERP implementation agreement. The Agency shall be notified of any variation to the plan as part of the AER and such notification shall detail the reasons for any deviation between emissions and the targets set out in the agreement, along with any remedial measures to deliver the targets. The Environmental Management Plan shall be reviewed by the licensee where required by the Agency.
- 3.18 The licensee shall undertake **an assessment of the intertidal habitat in the zone of impact of the discharges from the installation to water**. The scope of the proposals shall as a minimum include the following:
- An assessment of the relative importance of, and the habitat quality within, the habitats and associated species in the Whitegate Bay SPA. This assessment shall address seasonal and tidal variations in habitat and species composition.
  - An assessment of the impact of the discharge on macroalgae and macroinvertebrates (benthics).

The scope of investigations required in this assessment shall be determined in consultation with the Heritage Section of the Department of **Arts, Heritage and the Gaeltacht**. A report on the assessment shall be submitted to the Agency within eighteen months of the date of grant of licence and **every four years thereafter**, unless otherwise agreed by the Agency.

**Reason:** *To provide for appropriate operation of the installation to ensure protection of the environment.*

## Condition 4. Interpretation

- 4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.1.1 Continuous Monitoring on emission points A1-1, A1-2, A1-3 and A1-4:  
The emission limit values for emissions to air shall be regarded as having been complied with if the evaluation of the results indicates, for operating hours within a calendar year (excluding periods of start-up and shut-down), that:
- none of the calendar monthly mean values exceeds the emission limit values, and
  - in the case of nitrogen oxides, 95% of all the 48 hourly mean values do not exceed 110% of the emission limit values.
- 4.1.2 Continuous Monitoring on emission point A2-1:
- The value of the 95% confidence intervals determined at the emission limit values shall not exceed the following percentages of the emission limit value:  
Nitrogen dioxide      20%
  - The validated hourly and daily average values shall be determined within the effective operating time (excluding start-up and shut-down periods), from the measured valid hourly average values after subtraction of the confidence interval specified in Condition 3.1.1 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 the emission limit value.
  - No validated hourly average value shall exceed twice the emission limit value.

- 4.1.3 Non-Continuous Monitoring
- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
  - (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.
  - (iii) For all other parameters, no **60 minute mean value shall exceed twice** the emission limit value.
- 4.2 The concentration and volume flow limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of:
- 4.2.1 In the case of combustion gases from Gas Turbines:
- (i) Temperature 273K, Pressure 101.3kPa, dry gas; 15% oxygen.
- 4.2.2 In the case of combustion gases other than from Gas Turbines:
- (i) Temperature 273K, Pressure 101.3kPa, dry gas; 3% oxygen.
- 4.3 Emission limit values for emissions to waters in this licence shall be interpreted in the following way:
- 4.3.1 Continuous Monitoring
- (i) No flow value shall exceed the specific limit.
  - (ii) No pH value shall deviate from the specified range.
  - (iii) No temperature value shall exceed the limit value.
- 4.3.2 Composite Sampling
- (i) No pH value shall deviate from the specified range.
  - (ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual results similarly calculated shall exceed 1.2 times the emission limit value.
- 4.3.3 Discrete Sampling
- For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.4 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.
- 4.5 Noise
- Noise from the activity shall not give rise to sound pressure levels (Leq, 30 minutes) measured at the noise sensitive locations which exceed the limit value(s) by more than 2 dB(A).

**Reason:** To clarify the interpretation of limit values fixed under the licence.

## Condition 5. Emissions

- 5.1 No specified emission from the installation shall exceed the emission limit values set out in *Schedule B: Emission Limits*, **subject to Conditions 4 and 5.5** of this licence. With the exception of DG10 (for emergency use less than 50 hours per annum), there shall be no other emissions of environmental significance.
- 5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.

- 5.3 No substance shall be discharged in a manner, or at a concentration, that, following initial dilution, causes tainting of fish or shellfish.
- 5.4 Discharges from the installation shall not artificially increase the ambient temperature of the receiving water by more than 1.5°C outside the mixing zone. **In relation to temperature, the mixing zone shall not exceed 25% of the cross sectional area of the waterbody at any point.**
- 5.5 The aggregated annual emissions ceilings for each of the parameters specified in Schedule B.1 *Emissions to Atmosphere*, of this licence, shall not be exceeded. The annual emissions ceilings may be revised in accordance with the implementation, management and operation provisions of the NERP as submitted in association with the technical amendment request dated 23<sup>rd</sup> April 2008 **made in accordance with licence register number P0561-04.**

**Reason:** *To provide for the protection of the environment by way of control and limitation of emissions.*

## Condition 6. Control and Monitoring

- 6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring*, of this licence.
- 6.1.1 Analyses shall be undertaken by competent staff in accordance with documented operating procedures.**
- 6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.**
- 6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.**
- 6.1.4 Where any analysis is sub-contracted it shall be to a competent laboratory.**
- 6.2 The licensee shall ensure that:
- (i) sampling and analysis for all parameters listed in the Schedules to this licence; and
- (ii) any reference measurements for the calibration of automated measurement systems;
- shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.
- 6.3 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. The use of alternative equipment, other than in emergency situations, shall be as agreed by the Agency.
- 6.4 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission/discharge (or ambient conditions where that is the monitoring objective).
- 6.5 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.**
- 6.6 All treatment/abatement and emission control equipment shall be calibrated and maintained in accordance with the instructions issued by the manufacturer/supplier or installer.
- 6.7 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.

- 6.8 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.**
- 6.9 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 6.10 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds, silt traps and oil separators shall be inspected weekly and desludged as necessary. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, silt traps and oil interceptors shall be properly maintained at all times.**
- 6.11 The licensee shall keep a record of the number of condensate polisher regenerations and report this annually as part of the AER.**
- 6.12 An inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly. A log of such inspections shall be maintained.
- 6.13 Storm Water
- A visual examination of the storm water discharges shall be carried out weekly. A log of such inspections, shall be maintained.
- 6.14 Noise
- The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the ‘**Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)**’ as published by the Agency.
- 6.15 Pollutant Release and Transfer Register (PRTR)
- The licensee shall prepare and report a PRTR for the site. The substance and/or wastes to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulations No. 166/2006 concerning the establishment of the European Pollutant Release and Transfer Register. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.
- 6.16 The licensee shall, within six months of the date of grant of this licence, develop and establish maintain a Data Management System for collation, archiving, assessing and graphically presenting the monitoring data generated as a result of this licence.**

<i>Reason: To provide for the protection of the environment by way of treatment and monitoring of emissions.</i>
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## Condition 7. Resource Use and Energy Efficiency

- 7.1 The licensee shall carry out an audit of the energy efficiency of **the site at intervals as required by the Agency**. The audit shall be carried out in accordance with the guidance published by the Agency, “**Guidance Note on Energy Efficiency Auditing**”.
- 7.2 The audit shall identify all practicable opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

- 7.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.
- 7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

**Reason:** *To provide for the efficient use of resources and energy in all site operations.*

## Condition 8. Materials Handling

- 8.1 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.
- 8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.3 The licensee shall ensure that, in advance of transfer to another person, waste shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.4 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.
- 8.5 Waste shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste shall be clearly labelled and appropriately segregated.
- 8.6 No waste classified as green list waste in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended) shall be consigned for recovery without the agreement of the Agency.
- 8.7 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring*, of this licence.**
- 8.8 Unless approved in writing, in advance, by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.
- 8.9 The licensee shall neither import waste into the State nor export waste out of the State except in accordance with the relevant provisions of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14th June 2006 on shipments of waste and associated national regulations.**
- 8.10 No amendment or variation in any agreed waste classification or consignment or haulage or disposal or recovery arrangements shall be made without the prior written agreement of the Agency.

**Reason:** *To provide for the appropriate handling of material and the protection of the environment.*

## Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

- 9.2 The licensee shall ensure that a documented Emergency Response Procedure is in place, that addresses any emergency situation which may originate on-site and shall address operations in times of National Electrical System Emergency. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.3 Incidents
- 9.3.1 In the event of an incident the licensee shall immediately:
- (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
  - (ii) isolate the source of any such emission;
  - (iii) evaluate the environmental pollution, if any, caused by the incident;
  - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
  - (v) identify the date, time and place of the incident;
  - (vi) notify the Agency and other relevant authorities.
- 9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency, to:
- (i) identify and put in place measures to avoid recurrence of the incident; and
  - (ii) identify and put in place any other appropriate remedial actions.

**Reason:** *To provide for the protection of the environment.*

## Condition 10. Decommissioning & Residuals Management

- 10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery any soil, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.
- 10.2 Decommissioning Management Plan (DMP)
- 10.2.1 The licensee shall **maintain** to the satisfaction of the Agency, a fully detailed and costed plan for the decommissioning or closure of the site or part thereof
- 10.2.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the agreement of the Agency.
- 10.2.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Condition 10.2.1 above.
- 10.3 The Decommissioning Management Plan shall include, as a minimum, the following:
- (i) a scope statement for the plan;
  - (ii) the criteria that define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment;
  - (iii) a programme to achieve the stated criteria;
  - (iv) where relevant, a test programme to demonstrate the successful implementation of the decommissioning plan; and
  - (v) details of the costings for the plan and the financial provisions to underwrite those costs.

- 10.4 A final validation report to include a certificate of completion for the Decommissioning Management Plan, for all or part of the site as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

**Reason:** *To make provision for the proper closure of the activity ensuring protection of the environment.*

## Condition 11. Notification, Records and Reports

- 11.1 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation.
- 11.1.1 The licensee shall report the total annual emissions of SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub> and particulates annually as part of the AER. When continuous monitoring is used, the licensee shall add up separately for each substance the mass emitted each day, on the basis of the volumetric flow rates of waste gases. Where continuous monitoring is not in use, estimates of the total annual emissions shall be determined by the operator on a basis acceptable to the Agency.
- 11.1.2 The licensee shall report the total annual amount of energy input, related to the net calorific value, broken down in terms of gas and gasoil annually as part of the AER.
- 11.1.3 The licensee shall maintain a record of the sulphur content of all gasoil delivered to the site.
- 11.1.4 The licensee shall maintain a record, for inspection by the Agency, of the hours of operation and total net amount of electricity generated by individual power plant units.
- 11.2 The licensee shall notify the Agency by both telephone and facsimile, if available, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- (i) any release of environmental significance to atmosphere from any potential emissions point including bypasses;
  - (ii) any emission that does not comply with the requirements of this licence;
  - (iii) any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control and Monitoring*, of this licence which is likely to lead to loss of control of the abatement system; and
  - (iv) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environment threat to air or land, or requiring an emergency response by the Local Authority.
- The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.
- 11.3 In the case of any incident relating to discharges to water, the licensee shall notify the Local and Water Services Authority and Inland Fisheries Ireland as soon as practicable after such an incident.
- 11.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall, as soon as practicable following incident notification, submit to the Agency the incident record.

- 11.5 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.
- 11.6 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation.
- 11.7 The licensee shall as a minimum keep the following documents at the site:**
- (i) **the licences relating to the installation;**
  - (ii) **the current EMS for the installation;**
  - (iii) **the previous year's AER for the installation;**
  - (iv) **records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation;**
  - (v) **relevant correspondence with the Agency;**
  - (vi) **up-to-date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;**
  - (vii) **up-to-date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;**
  - (viii) **any elements of the licence application or EIS documentation referenced in this licence.**
- This documentation shall be available to the Agency for inspection at all reasonable times.**
- 11.8 The licensee shall submit to the Agency, by the 31<sup>st</sup> March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.
- 11.9 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall as a minimum contain details of the following:
- (i) the tonnages and EWC Code for the waste sent off-site for disposal/recovery;
  - (ii) the names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number);
  - (iii) details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required;
  - (iv) written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site;
  - (v) details of all waste consigned abroad for Recovery and classified as 'Green' in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended). The rationale for the classification must form part of the record;
  - (vi) details of any rejected consignments;
  - (vii) details of any approved waste mixing;
  - (viii) **the results of any waste analyses required under *Schedule C: Control & Monitoring, of this licence; and***
  - (ix) the tonnage and EWC Code for the waste materials recovered/disposed on-site.
- 11.10 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.

- 11.11 All reports shall be certified accurate and representative by the installation manager or a nominated, suitably qualified and experienced deputy.

**Reason:** *To provide for the collection and reporting of adequate information on the activity.*

## Condition 12. Financial Charges and Provisions

### 12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of **€8,376**, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Environmental Protection Agency Acts 1992 to 2012. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31<sup>st</sup> day of December, and shall be paid to the Agency within one month from the date of grant of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Environmental Protection Agency Acts 1992 to 2012, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased, the licensee shall contribute such sums as determined by the Agency to defray its costs in regard to items not covered by the said annual contribution.

### 12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER, provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (**including closure**) or accidents/incidents, as may be associated with the carrying on of the activity.

12.2.2 The licensee shall **maintain** a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the DMP. A The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement. Review results are to be notified as part of the AER.

12.2.3 As part of the measures identified in Condition 12.2.1, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with the operation (including closure, restoration and aftercare). The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'Statement of Measures' report identified in Condition 12.2.1.

12.2.4 The licensee shall revise the cost of closure, restoration and aftercare annually and any adjustments shall be reflected in the financial provision made under Condition 12.2.3.

12.2.5 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Conditions 12.2.2 and 12.2.3 above.

**Reason:** *To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*

## SCHEDULE A: Limitations

There are no limitations on the installation specified in the Schedule.

## SCHEDULE B: Emission Limits

### B.1 Emissions to Air

**Emission Point Reference No.:** A1-1  
**Location:** Unit 1 – 675MW Thermal Input

**Volume to be emitted:** Maximum in any one day: 19,200,000 m<sup>3</sup>  
 Maximum rate per hour: 800,000 m<sup>3</sup>

**Minimum discharge height:** 152 m above ground

Parameter	Emission Limit Value mg/m <sup>3</sup>	Annual emissions ceilings <sup>Note 1</sup> (tonnes)
Oxides of sulphur (as SO <sub>2</sub> )	35	153
Nitrogen oxides (as NO <sub>2</sub> )	390	876
Dust	5	22

Note 1: Annual emissions from A1-1 shall be calculated in accordance with the NERP.

**Emission Point Reference No's.:** A1-2, A1-3 and A1-4  
**Location:** CT11 – 283MW Thermal Input  
 CT12 – 283MW Thermal Input  
 CT14 – 283MW Thermal Input

**Volume to be emitted from each stack:** Maximum in any one day: 23,600,000 m<sup>3</sup>  
 Maximum rate per hour: 985,000 m<sup>3</sup>

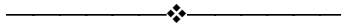
**Minimum discharge height:** 65 m above ground

Parameter	Emission Limit Value mg/m <sup>3</sup>	Emission Limit Value mg/m <sup>3</sup>
	Natural Gas	Distillate
Oxides of sulphur (as SO <sub>2</sub> )	35	120
Nitrogen oxides (as NO <sub>2</sub> )	250	375
Dust	5	20

<b>Emission Point Reference No.:</b>	A2-1, A2-2	
<b>Location:</b>	CCGT HRSG (Main) stack, CCGT Bypass stack	
<b>Volume to be emitted:</b>	Maximum in any one day:	45,900,000 m <sup>3</sup>
	Maximum rate per hour:	2,400,000 m <sup>3</sup>
<b>Minimum discharge height:</b>	65 m above ground	

Parameter	Emission Limit Value (mg/m <sup>3</sup> )	
	Natural Gas	Gasoil
Oxides of sulphur	35	60
Nitrogen oxides (as NO <sub>2</sub> )	50 for $\eta \leq 55\%$ <sup>Note 1</sup> 75 for $\eta > 55\%$ <sup>Note 1</sup>	120
Dust	5	20

Note 1:  $\eta$  is the overall electrical efficiency as determined at the time of commissioning.



<b>Emission Point Reference No.:</b>	A1-5	
<b>Location:</b>	Auxiliary stack, CCGT Plant	
<b>Volume to be emitted:</b>	Maximum in any one day:	6.14 X 10 <sup>7</sup> m <sup>3</sup>
	Maximum rate per hour:	3.5 X 10 <sup>4</sup> m <sup>3</sup>
<b>Minimum discharge height:</b>	48 m above ground	

Parameter	Emission Limit Value	
	Natural Gas	Gasoil
Oxides of sulphur (as SO <sub>2</sub> )	Not applicable	170 mg/m <sup>3</sup>
Nitrogen oxides (as NO <sub>2</sub> )	820mg/m <sup>3</sup>	1,050mg/m <sup>3</sup>



**B.2 Emissions to Water**

<b>Emission Point Reference No.:</b>	PE4	
<b>Name of Receiving Waters:</b>	Cork Harbour (SW_060_0000)	
<b>Location:</b>	Cooling Water Outfall E183418, N64641	
<b>Volume to be emitted:</b>	Maximum in any one day:	768,000 m <sup>3</sup>
	Maximum rate per hour:	32,000 m <sup>3</sup>

Parameter	Emission Limit Value
pH	6-9
Temperature	15°C Maximum above estuarine water 12.5°C –98%ile above ambient estuarine water
Thermal Load	355MW <sub>th</sub> - Maximum 335MW <sub>th</sub> – 98%ile
Chlorine	0.3 mg/l



<b>Emission Point Reference No.:</b>	PE14 – Boiler blowdown
<b>Name of Receiving Waters:</b>	Cork Harbour (SW_060_0000)
<b>Location:</b>	Large lagoon via station drains E183800, N64861

Parameter	Emission Limit Value
pH	6-9
Ammonia	5 mg/l
Oil	20 mg/l



<b>Emission Point Reference No.:</b>	PE15
<b>Name of Receiving Waters:</b>	Cork Harbour (SW_060_0000)
<b>Location:</b>	Water treatment neutralisation sump E183799, N64862
<b>Volume to be emitted:</b>	Maximum in any one day: 500 m <sup>3</sup>

Parameter	Emission Limit Value	
pH	6-9	
Ammonia	10mg/l <sup>Note 1</sup>	--
Suspended solids	50 mg/l	15 kg/day

Note 1: An emission limit value of 300mg/l and 80kg/day is allowed during condensate polisher plant regenerations only.  
Total Ammonia mass emissions shall not exceed 1,825 kgs annually.



**Emission Point Reference No.:** PE19 Condenser cooling water (+ SW21, SW26, PE23, PE24, PE25)  
**Name of Receiving Waters:** Cork Harbour (SW\_060\_0000)  
**Location:** Cooling water Outfall E183266, N065316  
**Volume to be emitted:** Maximum in any one day: 792,000 m<sup>3</sup>  
 Maximum rate per hour: 33,000 m<sup>3</sup>

Parameter	Emission Limit Value
pH	6 – 9
Chlorine	0.3 mg/l
Temperature	15°C Maximum above estuarine water 12.5°C –98%ile above ambient estuarine water
Thermal Load	Max cooling water flow 9.2 m <sup>3</sup> /s



**Emission Point Reference No.:** PE24 Water treatment plant effluent  
**Name of Receiving Waters:** Cork Harbour (SW\_060\_0000)  
**Location:** Prior to entering cooling water outfall E183644, N064826  
**Volume to be emitted:** Maximum in any one day: 400 m<sup>3</sup>  
 Maximum rate per hour: 100 m<sup>3</sup>

Parameter	Emission Limit Value
pH	6-9
Ammonia	10 mg/l
Suspended solids	100 mg/l



**Emission Point Reference No.:** SE3 and SE23 Sewage treatment plant effluent  
**Name of Receiving Waters:** Cork Harbour (SW\_060\_0000)  
**Location:** Southern Foreshore (SE3) E18366, N64546. Prior to entering cooling water outfall (PE23) E183605, N064800

Control Parameter	Emission Limit Values
Biochemical Oxygen Demand	20mg/l
Suspended Solids	30 mg/l



**B.3 Emissions to Sewer**

There shall be no process effluent emissions to sewer.

**B.4 Noise Emissions**

Daytime dB(A) $L_{Aeq}$ (30 minutes)	Night-time dB(A) $L_{Aeq}$ (30 minutes)
55 <sup>Note 1</sup>	45 <sup>Note 1</sup>

**Note 1:** There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity of any noise-sensitive location.



## SCHEDULE C: Control & Monitoring

### C.1.1. Control of Emissions to Air

**Emission Point Reference No.:** A1-1  
**Description of Treatment:** Dry Low NO<sub>x</sub> Burners

Control Parameter	Monitoring	Key Equipment <sup>Note 1</sup>
Nitrogen oxides (as NO <sub>2</sub> )	Continuous	Differential optical absorption spectroscopy Dry low NO <sub>x</sub> burner
Carbon monoxide	Continuous	CO Probe Monitor and Combustion Management System
Temperature	Continuous	To be agreed with the Agency
Pressure	Continuous	To be agreed with the Agency
Water vapour <sup>Note 2</sup>	Continuous	To be agreed with the Agency
Oxygen	Continuous	Oxygen probe/monitor Monitor and Combustion Management System

**Note 1:** The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

**Note 2:** Not required where the sampled gas is dried before analysis.



**Emission Point Reference No's.:** A1-2, A1-3 and A1-4

#### Monitoring:

Control Parameter	Monitoring	Key Equipment <sup>Note 1</sup>
Nitrogen oxides (as NO <sub>2</sub> )	Continuous <sup>Note 2</sup>	To be agreed with the Agency Combustion Management System
Oxygen	Continuous <sup>Note 2</sup>	To be agreed with the Agency Monitor and Combustion Management System
Carbon Monoxide	--	Monitor and Combustion Management System
Temperature	Continuous	To be agreed with the Agency
Pressure	Continuous	To be agreed with the Agency
Water vapour <sup>Note 3</sup>	Continuous	To be agreed with the Agency

**Note 1:** The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

**Note 2:** Where the licensee gives a written undertaking (no later than June 30, 2004) to the Agency not to operate each of the plant for more than 10,000 hours with closure thereafter biannual monitoring shall be required instead of continuous monitoring.

**Note 3:** Not required where the sampled gas is dried before analysis.



**Emission Point Reference No.:** A2-1, A2-2 (CCGT operation on natural gas)

**Description of Treatment:** Dry low NOx burners

**Monitoring:**

Control Parameter	Monitoring <sup>Note 1</sup>	Key Equipment <sup>Note 2</sup>
Nitrogen oxides (as NO <sub>2</sub> )	Continuous	To be agreed with the Agency Dry low NO <sub>x</sub> burner

**Note 1:** Continuous measurements systems shall be subject to control by means of parallel measurements with the reference methods at least once a year.

**Note 2:** The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



**Emission Point Reference No.:** A2-1, A2-2 (CCGT operation on gas oil)

**Description of Treatment:** Water injection for NOx suppression

**Monitoring:**

Control Parameter	Monitoring	Key Equipment <sup>Note 1</sup>
NOx concentration	Continuous	To be agreed with the Agency
Flame temperature	--	Water injectors

**Note 1:** The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



**C.1.2. Monitoring of Emissions to Air**

**Emission Point Reference No.:** A1-1

Parameter	Monitoring Frequency	Analysis Method/Technique
NOx (as NO <sub>2</sub> )	Continuous	Differential optical absorption spectroscopy
SO <sub>2</sub>	Biannually	To be agreed with the Agency
Dust	Biannually	Isokinetic/Gravimetric



**Emission Point Reference No's.:** A1-2, A1-3 and A1-4

Parameter	Monitoring Frequency	Analysis Method/Technique
NOx (as NO <sub>2</sub> )	Continuous <sup>Note 2</sup>	To be agreed with the Agency
SO <sub>2</sub>	Biannually	To be agreed with the Agency
Dust	Biannually	Isokinetic/Gravimetric

Note 1: Where the licensee gives a written undertaking to the Agency not to operate each of the plant for more than 10,000 hours with closure thereafter biannual monitoring shall be required instead of continuous monitoring.



**Emission Point Reference No.:** A2-1

Parameter	Monitoring Frequency <sup>Note 1</sup>	Analysis Method/Technique
NOx	Continuous	To be agreed by the Agency
SO <sub>2</sub>	Biannually	To be agreed with the Agency
Dust	Biannually	Isokinetic/Gravimetric
Oxygen	Continuous	To be agreed with the Agency
Temperature	Continuous	To be agreed with the Agency
Pressure	Continuous	To be agreed with the Agency
Water vapour <sup>Note 2</sup>	Continuous	To be agreed with the Agency

Note 1: Continuous measurements systems shall be subject to control by means of parallel measurements with the reference methods at least once a year.

Note 2: Not required where the sampled gas is dried before analysis.



**Emission Point Reference No.:** A1-5 (CCGT Auxiliary stack)

Parameter	Monitoring Frequency <sup>Note 1</sup>	Analysis Method/Technique
NOx	Not applicable	Plant log and commissioning test curves <sup>Note 2</sup>
SO <sub>2</sub>	Not applicable	Based on fuel consumption and fuel sulphur content

Note 1: During plant operations.

Note 2: The emission curves shall be validated on a yearly basis.



**C.2.1. Control of Emissions to Water**

**Emission Point Reference No.:** PE4, PE19  
**Description of Treatment:** Chlorination and screening

Control Parameter	Monitoring	Key Equipment <sup>Note 1</sup>
Temperature (cooling water intake)	Continuous	Temperature probe/recorder
Temperature (outlet)	Continuous	Temperature probe/recorder
Flow	Continuous <sup>Note 2</sup>	Recording of pump rating Pumps
Chlorine	Continuous	To be agreed with the Agency Injection system

**Note 1:** The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

**Note 2:** The pump rating shall be validated and a curve produced to show daily flow readings.



**Emission Point Reference No.:** PE 15, PE24  
**Description of Treatment:** Water Treatment Neutralisation sump

Control Parameter	Monitoring	Key Equipment <sup>Note 1</sup>
pH	Each discharge	pH meter Dosing pumps
Flow	Each discharge	To be agreed with the Agency Pumps
Ammonia	Each discharge	To be agreed with the Agency Injection system

**Note 1:** The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



**C.2.2. Monitoring of Emissions to Water****Emission Point Reference No.:** PE4, PE19<sup>Note 3</sup>

Parameter	Monitoring Frequency	Analysis Method/Technique
<b>Flow</b>	Continuous <sup>Note 1</sup>	Calculated
<b>Temperature inlet</b>	Continuous	On-line temperature probe with recorder
<b>Temperature outlet</b>	Continuous	On-line temperature probe with recorder
<b>Chlorine</b>	Continuous	To be agreed with the Agency
<b>pH</b> <sup>Note 2</sup>	Continuous	pH meter
<b>Mineral oil</b> <sup>Note 2</sup>	<b>Monthly</b>	<b>Standard method</b>

Note 1: The pump rating shall be validated and a curve produced to show daily flow readings.

Note 2: This monitoring requirement applies only to PE19.

Note 3: Monitoring may be conducted at a location upstream of the outfall provided suitable verification of drop-off with respect to relevant monitoring parameters is agreed with the Agency.

**Emission Point Reference No.:** PE14 (Boiler blowdown/station drains)

Parameter	Monitoring Frequency	Analysis Method/Technique
<b>Flow</b> <sup>Note 1</sup>	During discharge	To be agreed with the Agency
<b>Ammonia</b>	Quarterly	Standard method
<b>Oil</b>	Quarterly	Standard method
<b>Visual Inspection</b>	Weekly	Not applicable

Note 1: An operations log of the number of unit start-ups in the year shall be maintained for inspection on site.

**Emission Point Reference No.:** PE 15 (Water treatment plant neutralisation sump)

Parameter	Monitoring Frequency	Analysis Method/Technique
<b>Flow</b>	Weekly	To be agreed with the Agency
<b>Ammonia</b>	Weekly	Standard method
<b>Suspended solids</b>	Weekly	Standard method
<b>Dissolved solids</b>	Monthly	Standard method

**Emission Point Reference No.:** PE 24 (Water Treatment Neutralisation sump)

Parameter	Monitoring Frequency	Analysis Method/Technique
<b>pH</b>	Continuous	pH electrode/meter and recorder
<b>Flow</b>	Continuous	On-line flow meter with recorder
<b>Ammonia</b>	Weekly	Standard method



Emission Point Reference No.: PE 25

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Weekly	pH probe
Ammonia (as N)	Monthly	Standard method
Phosphate (as P)	Monthly	Standard method



Emission Point Reference No's.: PE2 (Engine Room/surface water drains)

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Quarterly	pH electrode/meter
BOD	Quarterly	Standard Method
Ammonia	Quarterly	Standard Method
Mineral Oil	Quarterly	Standard Method
Visual Inspection	Weekly	Not Applicable



Emission Point Reference No.: SE3, PE23

Parameter	Monitoring Frequency	Analysis Method/Technique
BOD	Quarterly	Standard method
Suspended solids	Quarterly	Standard method
Visual inspection	Weekly	Not Applicable



### C.2.3. Monitoring of Storm Water Emissions

Emission Point Reference No's.: SW1 (surface water discharge), SW10 (Large lagoon), SW22 (Chlorine house/surface water discharge)

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Quarterly	pH electrode/meter
BOD	Quarterly	Standard Method
Total ammonia (SW10 only)	Quarterly	Standard method
Mineral oil (SW22 only)	Quarterly	Standard Method
Residual Chlorine (SW22 only)	Weekly	Standard Method
Visual Inspection	Weekly	Not Applicable



Emission Point Reference No's.: SW12, SW27 (surface water drains from CT compound/oil tank farms)

Parameter	Monitoring Frequency	Analysis Method/Technique
Mineral Oil	Monthly	Standard Method
Visual Inspection	Weekly	Not Applicable



**C.3.1. Control of Emissions to Sewer**

There shall be no process effluent emissions to sewer.



**C.3.2. Monitoring of Emissions to Sewer**

There shall be no process effluent emissions to Sewer.



**C.4 Waste Monitoring**

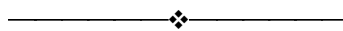
Waste Class	Frequency	Parameter	Method
Other <sup>Note 1</sup>			

Note 1: Analytical requirements to be determined on a case by case basis.



**C.5 Noise Monitoring**

No additional noise monitoring is required in this schedule.

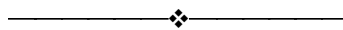


**C.6 Ambient Monitoring**

**Groundwater Monitoring**

Emission Point Reference No's.: BH1, BH4, BH5, RT1, RT5, RT6, RT7 and RT14

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Quarterly	pH electrode/meter
BOD	Quarterly	Standard Method
Total Hydrocarbons	Quarterly	Standard Method
Conductivity	Quarterly	Standard Method



## SCHEDULE D: Annual Environmental Report

<b>Annual Environmental Report Content</b> <small>Note 1</small>
<p>Emissions from the installation</p> <p>Waste management record.</p> <p>Resource consumption summary.</p> <p>Complaints summary.</p> <p>Schedule of Environmental Objectives and Targets.</p> <p>Environmental management programme – report for previous year.</p> <p>Environmental management programme – proposal for current year.</p> <p>Pollutant Release and Transfer Register – report for previous year.</p> <p>Pollutant Release and transfer Register – proposal for current year.</p> <p>Noise monitoring report summary.</p> <p>Ambient monitoring summary.</p> <p>Tank and pipeline testing and inspection report.</p> <p>Reported incidents summary.</p> <p>Energy efficiency audit report summary.</p> <p><b>Total annual emissions of SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub> and particulates.</b></p> <p><b>CCGT total annual emissions, records of operation and total energy input.</b></p> <p>Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.</p> <p>Report on progress made and proposals being developed to minimise water demand and the volume of trade effluent discharges.</p> <p>Review of decommissioning management plan.</p> <p>Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).</p> <p>Environmental Liabilities Risk Assessment Review (every three years or more frequently as dictated by relevant on-site change including financial provisions).</p> <p>Any other items specified by the Agency.</p>

**Note 1:** Content may be revised subject to the agreement of the Agency.

**Signed on behalf of the said Agency** \_\_\_\_\_  
 On the xx day of xxxxx, 200X                      xxxxxxxxxxxxxx    **Authorised Person**