

APPENDIX D – ENVIRONMENTAL PERMIT

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2007

Tees Renewable Energy Plant

MGT Teesside Limited
Teesdock
Grangetown
Middlesborough
TS6 6UD

Permit number
EPR/TP3538GF

Tees Renewable Energy Plant Permit Number EPR/TP3538GF

Introductory note

This introductory note does not form a part of the permit

The main features of the facility are as follows.

The Tees Renewable Energy Plant (Tees REP) is located on land adjacent to the main southern dock at Teesport on the south bank of the River Tess in the Borough of Redcar and Cleveland (centred at NGR NZ 54300, 23230) The site is to be operated by MGT Teesside Limited.

The permit is for a power station generating about 300MW of electrical power. The combustion unit will be fuelled by approximately 2,400,000 tonnes of clean wood-chip per year, from short rotation forestry and uses circulating fluidised bed (CFB) technology. The wood chip will be pre-dominantly imported from the North American and South American continent. The wood chip is delivered to the site by ship into Teesport docks which are operated by PD Ports. The installation includes a series of hoppers and conveyors that transport the wood chip from the deep water quay to the wood storage buildings on the Tees REP site. The unloading operation and these hoppers and conveyors are deemed to be under the operational control of MGT Teesside Limited and are included within this Permit.

The wood-chip is transferred onto conveyor systems within the wood storage buildings and fed into the combustion unit.

Steam generated at the combustion unit is used to rotate a steam turbine which forms electricity which is fed into the National Grid.

The installation includes gas oil fuelled auxiliary boiler for use during the main boiler start-up.

After passing through the steam turbine, the steam is cooled by air cooling technology.

The installation also includes emergency stand-by generator to provide for essential systems in the event of mains power supply interruption. The plant will operate 24 hours a day, 7 days a week.

Emissions from the Installation.

Emissions to air are combustion gases pre-dominantly carbon dioxide, carbon monoxide, particulate and oxides of nitrogen with lower levels of hydrogen chloride and sulphur dioxide. Dioxins and metal emissions will be insignificant. The Installation is subject to the Large Combustion Plant Directive.

Selective non-catalytic reduction (SNCR) abatement is installed to control emissions of oxides of nitrogen. Calcium Hydroxide capability is installed to control emissions of sulphur dioxide and hydrogen chloride. Bag filter abatement is used to control emissions of particulate.

Emissions to sewer are from the boiler blow down and the effluent from the pre-treatment of water feed to the boilers, foul water, and closed system process cooling water. These emissions to sewer flow to Northumbria Water Effluent Treatment works at Bran Sands. The emissions to sewer from the site will need to be in line with the consent when granted to the site by Northumbria Water.

There are no emissions to controlled water from the process. Surface water is collected and discharged into the River Tees.

There are several sites protected under the Habitats Regulations within 10 km of the Installation, all of which are part of the Teesmouth & Cleveland Coast, and Tees and Hartlepool Foreshore and Wetlands. They include Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites. The closest site is approx 1150 metres west of the Installation.

Raw materials stored on site and used by the installation are virgin wood chip, ammonia (SNCR injection), lubricating oil, biodiesel and dosing chemicals.

Waste ash is produced at the site and will be removed from the site by road tankers for disposal and/or re-use.

Being a new Installation the Operator has not got in place an Environmental Management System. Operators strong commitment to implement a system, certified to, ISO 14001 is reinforced through improvement programme.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status Log of the permit		
Detail	Date	Response Date
Application EPR/TP3538GF	Duly made 09/12/08	
Additional Information Received	02/04/09	30/04/09
Additional Information Received	06/05/09	18/06/09 & 02/09/09
Permit determined	23/12/09	

End of Introductory Note

Permit

The Environmental Permitting (England and Wales) Regulations 2007

Permit

Permit number

EPR/TP3538GF

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2007

MGT Teesside Limited ("the operator"),

whose registered office is

1 Bickenhall Mansions

Bickenhall Street

London

W1u 6bp

company registration number 06574235

to operate a facility comprising of an installation at

Teesdock

Grangetown

Middlesbrough

TS6 6UD

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Mr Ian Brindley 	23/12/09

Authorised on behalf of the Agency

Conditions

1 Management

1.1 General management

1.1.1 The activities shall be managed and operated:

- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and closure and those drawn to the attention of the operator as a result of complaints; and
- (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Accident management plan

1.2.1 The operator shall:

- (a) maintain and implement an accident management plan
- (b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
- (c) make any appropriate changes to the plan identified by a review.

1.3 Energy efficiency

1.3.1 For the following activities referenced in schedule 1, table S1.1. The operator shall:

- (a) take appropriate measures to ensure that energy is generated and used efficiently in the activities;
- (b) review and record at least every 4 years whether there are suitable opportunities to improve the energy recovery and efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

1.4 Efficient use of raw materials

1.4.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every 4 years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.5 Avoidance, recovery and disposal of wastes produced by the activities

1.5.1 The operator shall:

- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
- (b) review and record at least every 4 years whether changes to those measures should be made; and
- (c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 2 to this permit, which is within the area edged in green on the site plan that represents the extent of the installation covered by this permit.

2.3 Operating techniques

2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Agency.

(b) If notified by the Agency that the activities are giving rise to pollution, the operator shall submit to the Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Agency.

2.3.2 No raw materials or fuels listed in schedule 3 table S3.1 shall be used unless they comply with the specifications set out in that table.

2.3.3 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

- (a) the nature of the process producing the waste;
- (b) the composition of the waste;
- (c) the handling requirements of the waste;
- (d) the hazard classification associated with the waste; and
- (e) the waste code of the waste.

2.3.4 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Agency, the operator shall notify the Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4A have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 4 tables S4.1, S4.2 and S4.3.
- 3.1.2 The limits given in schedule 4 shall not be exceeded.

3.2 Fugitive emissions of substances

- 3.2.1 Fugitive emissions of substances (excluding odour, noise and vibration) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved fugitive emissions management plan have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
 - (a) if notified by the Agency that the activities are giving rise to pollution, submit to the Agency for approval within the period specified, a fugitive emissions management plan;
 - b) implement the approved fugitive emissions management plan, from the date of approval, unless otherwise agreed in writing by the Agency.
- 3.2.3 All liquids, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

- (a) if notified by the Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Agency for approval within the period specified, an odour management plan;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Agency.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan from the point of written approval by the agency of the response to POC3 to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Agency for approval within the period specified, a noise and vibration management plan;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake the monitoring specified in the following tables in schedule 4 to this permit:

- (a) point source emissions specified in tables S4.1, S4.2 and S4.3;
- (b) process monitoring specified in table S4.4.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 4 tables S4.1, S4.2 and S4.3 unless otherwise specified in that schedule.

3.6 Monitoring for the purposes of the Large Combustion Plant Directive

- 3.6.1 All LCP monitoring required by this permit shall be carried out in accordance with the provisions of Annex VIII of the Large Combustion Plant Directive.
- 3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in Schedule 4, the Operator shall:
- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
 - (b) implement the approved measures.
- 3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.
- 3.6.4 Unless otherwise agreed in writing by the Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.
- 3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Agency.
- 3.6.6 Where required by a condition of this permit to check the measurement equipment the operator shall submit a report to the Agency in writing, within 28 days of the completion of the check.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

- 4.1.2 All records, plans and the management system required to be maintained by this permit shall be held on the site where practicable, or other location agreed in writing and controlled by the operator.

4.2 Reporting

- 4.2.1 All reports and notifications required by the permit shall be sent to the Agency using the contact details supplied in writing by the Agency
- 4.2.2 For the following activities referenced in schedule 1, table S1.1. A report or reports on the performance of the activities over the previous year shall be submitted to the Agency by 31 January (or other date agreed in writing by the Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 5 table S5.2; and
 - (c) the performance parameters set out in schedule 5 table S5.3 using the forms specified in table S5.4 of that schedule.

- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 5 table S5.1;
 - (b) for the reporting periods specified in schedule 5 table S5.1 and using the forms specified in schedule 5 table S5.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding 4 years, submit to the Agency, within 6 months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 The Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 6 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 Where the operator has entered into a climate change agreement with the Government, the Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 7 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities

Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex IIA and IIB operations	Limits of specified activity and waste types
Burning any fuel in an appliance with a rated thermal input of 50MW or more (Schedule 1 Section 1.1. Part A(1))	Circulating fluidised bed (CFB) boiler, auxiliary boiler and emergency generator.	The entire combustion plant including air supply system, boiler, power plant (including CFB boiler, auxiliary boiler and emergency back-up generator), facilities for the treatment of exhaust gases, stacks, devices and systems for controlling combustion conditions. Auxiliary boiler from loading of gas oil to boiler to export of steam to the CFB system for up to 12 hours during plant start-up.
Directly Associated Activity		
Steam and electrical power supply	Steam turbine for generation of up to 300MW electrical output.	Includes gas oil receipt and storage, and demineralised water plant
Firewater pump	Pumping of firewater in the event of an emergency.	Operation of firewater pump for regular testing of firewater system and for pumping firewater in the event of an emergency.
Storage and movement of ash	Storage of ash within designated hoppers	From transfer of ash from CFB boiler to discharge into road container for transport off-site.
Water demineralisation plant	Demineralisation of water supply to boiler for steam production.	From receipt of water from mains supply to discharge of water to boiler plant.
Fuel storage and movement	Storage of wood chip and loading to CFB boiler	Storage of wood-chip within dedicated buildings, loading of wood chip on to conveyor and transfer by conveyor to silos which feed the CFB boiler.
Gas oil storage and handling	Storage of gas oil within dedicated bulk storage tank.	Off-loading of gas oil from road tanker to dedicated storage tank and transfer by pipe to combustion plant.
Fuel unloading and transfer	Movement of wood-chip from deep water quay to site	Loading wood-chip into hoppers at quay and movement of wood-chip by a series of conveyors and hoppers to the wood storage building on site.

Table S1.2 Operating techniques

Description	Parts	Date Received
Application	Part B of the application form	09/12/09
Response to Schedule 5 Notice dated 02/04/09	Response to question 1 detailing process control.	02/09/09
Response to pre-operational condition POC1 as approved in writing by the Environment Agency.	As stated in written approval to the response to POC1	3 months prior to commencement of commissioning period

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IP1	The Operator shall submit a report to the Agency detailing the assessments made during the commissioning period in line with the report submitted in response to POC6, as approved by the Agency. These assessments shall include, but not be limited to, the optimisation of SNCR, and emission abatement additives; comparison of process parameters with those laid out within the Permit Application; efficiency of fugitive emission and noise controls; and continuous emission monitoring results must be logged. Any changes proposed or done as a result of the commissioning of the plant shall be detailed within the report. The report shall be sent to the Agency for approval.	3 months after start of operations.
IP2	The Operator shall submit a report to the Agency detailing the metals content of the emissions to air through A1 stack. The metals tested should include, but not be limited to; cadmium, mercury, chromium, arsenic, vanadium, copper, zinc, nickel and lead. The analysis shall be carried out during the combustion of woods from distinct geographical areas and be representative of the full range of wood received as fuel at the site. At least 3 separate analysis campaigns shall be completed. The report shall indicate the geographical source and the nature of the wood that was burnt during each air emission analysis period The report shall also include a plan for on-going analysis of the metals content of emissions from A1 stack. As a minimum this plan shall include metal analysis of air emissions for all wood sourced from distinct geographical areas other than those assessed during the initial sampling period.	6 months after completion of commissioning
IP3	The Operator shall submit a report to the Agency detailing an assessment of the operational % conversion efficiency of the power station. Where the calculated operational % conversion efficiency is lower than 36% the Operator shall assess how the conversion efficiency can be improved. Where applicable, the report shall include a time-tabled plan to implement such improvements.	12 months after start of operation
IP4	The Operator shall submit a report to the Agency detailing an investigation into identifying potential users of steam within sufficient proximity of the site for the use of that steam to be potentially viable. Where such users are identified the Operator shall assess the feasibility of supplying the potential user with steam by conversion of the combustion unit at the site to a Combined Heat and Power plant. Where applicable, the report shall include a time-tabled plan to implement such changes and initiate steam production. The report shall also include a commitment for regular structured investigations of potential steam users in the vicinity of the site.	18 months after start of operation

Table S1.4A Pre-operational measures

Reference	Pre-operational measures
POC1	At least 2 months prior to start of operations at the site the Operator shall submit to the Agency at the Reporting Address a series of plans detailing the location of any underground sumps, pipe-work, culverts, process and surface water drains , sewer system or other sub-surface structures within the Installation boundary, along with any associated discharge points. The plans shall also indicate the groundwater contours within the Installation boundary. A proposed preventative maintenance schedule for these structures shall be submitted with the plans. Operations at the site shall not commence until the plans and preventative maintenance schedule is approved in writing by the Environment Agency.
POC2	At least 4 months prior to commencement of operations at the site the Operator shall send to the Agency a report detailing a BAT assessment for the final power station. This assessment shall include an assessment of the proposed procedures for raw material delivery and storage, waste production, storage and disposal, in addition to the operation of the boilers and turbines against the BAT standards within the IPPC Sector Guidance note – EPR1.01 - Combustion Activities dated March 2009. The report shall include a demonstration that these aspects of the operational procedures are in line with what has been accepted as BAT for the site during the determination of this Permit, and will enable the Operator to conform with the conditions within this Permit.
POC3	At least 3 months prior to start of operations at the site the Operator shall send a Noise Management plan to the Agency at the Reporting Address. The plan shall include revised noise modelling based on the manufacturer's sound power level data of the installed equipment. Operations at the site shall not commence until the noise management plan is approved in writing by the Environment Agency.
POC4	At least 3 months prior to start of operations at the site the Operator shall produce the site's Environment Management System (EMS) including an Accident Management Plan. The EMS shall be developed in line with the requirements set out in "Getting the basics right – how to comply with your environmental permit" and EPR1.01 Technical Guidance Note Combustion Activities, dated March 2009. The Operator shall indicate whether the Environment Management System has been accredited by an external body or if appropriate submit a schedule by which the EMS will be subject to accreditation.
POC5	At least 2 months prior to start of operations at the site the Operator shall submit a written plan to the Agency for approval detailing the location and nature of hard-standing, kerbing and secondary containment for raw material, intermediate, product and waste storage areas at the site. The report shall include an assessment of these against the requirements of section 3 of IPPC Technical Guidance Note EPR1.01 - Combustion Activities dated March 2009, and the Agency's Containment policy for Hazardous substances. Where appropriate the plan shall contain dates for the implementation of individual measures.
POC6	At least 2 months prior to start of operations at the site the Operator shall submit a written commercialisation monitoring plan to the Agency. The plan shall include details, but not be limited to, how the Operator will assess the optimisation of SNCR, and the use of /optimisation of emission abatement additives; monitor process variables and compare to those laid out within the Permit Application; assess efficiency of fugitive emission and noise controls; and analyse continuous emission monitoring results and how they relate to process conditions.
POC7	At least 1 month prior to start of operations at the site the Operator shall submit a written Energy efficiency plan for approval to the Agency at the Reporting Address. The Energy efficiency plan should be in line with the requirements set out within Section 1.1 of the IPPC Technical Guidance Note EPR1.01 - Combustion Activities dated March 2009.

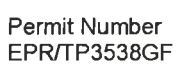
Table S1.4A Pre-operational measures

Reference	Pre-operational measures
POC8	At least 1 month prior to start of operations at the site the Operator shall send details on how the waste produced at the site will be minimised and how any waste produced will be re-used, recycled and/or disposed. The report shall include an assessment of whether the proposed routes represent the Best Environmental Option for each waste. Where potential improvements are identified the Operator shall propose a time-tabled plan to implement such improvements.

Table S1.5 Appropriate measures for noise

Measure	Dates
As per noise management plan as agreed by the Environment Agency in response to pre-operational condition POC3 and subsequently revised in accordance with Condition 3.5.1.	As from date of written approval of the noise management plan by the Environment Agency.

Date of issue 23/12/09



Schedule 3 - Waste types, raw materials and fuels

Table S3.1 Raw materials and fuels

Raw materials and fuel description	Specification
Virgin wood chip	wood chip
Gas oil	<0.1% w/w sulphur

Table S3.2 Permitted waste types and quantities for storage and transfer of hazardous waste for off-site disposal

Maximum quantity	75,000 Te/year
Waste code	
10 01 03	Fly-ash from peat and untreated wood
10 01 01	Bottom ash from peat and untreated wood
10 01 24	sands from fluidised beds

Schedule 4 – Emissions and monitoring

Note

For the purposes of this Schedule, the following interpretations shall apply:

- For the continuous measurement systems fitted to the LCPD release points defined in Table S4.1 the validated hourly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval.
- The 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%.
- The 95% confidence interval for dust releases of a single measured result shall be taken to be 30%
- An invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing.
- Any day, in which more than three hourly average values are invalid shall be invalidated.

Table S4.1: Point Source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit) ^(a)	Reference period	Monitoring frequency	Monitoring standard or method
A1, Position as indicated on dwg Figure 2 Summary of release points in application	Circulating fluidised bed boiler	Particulate Matter	20mg/Nm ³ ^(b)	Daily average of hourly averages	Continuous	EN14181
				Average over monitoring period	Annual spot monitoring	BS EN 13284 - 1
		Oxides of nitrogen (NOx)	150mg/Nm ³	Hourly average	Continuous	EN14181
				Average over monitoring period	Annual spot monitoring	BS EN 14792
		Sulphur dioxide	53mg/Nm ³	Calendar monthly mean	Continuous	EN14181
				97% of validated 24 hour mean values year do not exceed 200% of ELV in column 4.	Annual spot monitoring	BS EN 14791
		Hydrogen chloride	20mg/Nm ³	Daily average	Continuous	EN 14181
				Average over monitoring period	Annual spot monitoring	BS EN 1911
		Carbon monoxide	100mg/Nm ³	8 - Hourly average	Continuous	EN 14181
				Average over monitoring period	Annual spot monitoring	BS EN 15058
		Ammonia	5mg/Nm ³	Average over monitoring period	Annual spot monitoring	EN 14181
		Metals	Note 1	Note 1	Note 1	Note 1

^(a)-these limits do not apply during start up or shut down.

Note 1 - To be confirmed in writing with the Environment Agency following completion of IP2, Table S1.3

Table S4.1: Point Source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit)^(a)	Reference period	Monitoring frequency	Monitoring standard or method
M2 - Position as indicated on dwg Figure 2 Summary of release points in application	Auxiliary boiler	Particulate, oxides of nitrogen, sulphur dioxide, carbon monoxide		No monitoring required		
M1 - Position as indicated on dwg Figure 2 Summary of release points in application	Stand-by generator	Particulate, oxides of nitrogen, sulphur dioxide, carbon monoxide		No monitoring required		

Notes:

^(a) Excludes start up and shut down.

^(b) Only applicable in a year that the auxiliary boiler is used for operational reasons.

Table S4.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 (position as indicated in agreed response to POC1)	Surface water from non-operational areas	Total suspended solids	30 mg/l	24-hour flow proportional sample	Weekly	BS EN 872
		Oil	5mg/l	24-hour flow proportional sample	Weekly	IP426
		pH	6 - 8	24-hour flow proportional sample	Weekly	ASTM D1783

Table S4.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
PW1 (position as indicated in approved response to POC1)	None specified	Site effluent de-mineralisation plant and boiler blowdown.	No monitoring required.			

Table S4.4 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Operational areas	Electricity consumption (MWe)	Annual	-	-
Export to National Grid	MWe	Annual	-	-
Use of diesel in auxiliary boiler	Tonnes	Annual	-	-

Schedule 5 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S5.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Particulate	A1 continuous monitoring	Quarterly	Start of operations
	A1 spot monitoring	Annually	Start of operations
Oxides of Nitrogen	A1 continuous monitoring	Quarterly	Start of operations
	A1 spot monitoring	Annually	Start of operations
Sulphur dioxide	A1 continuous monitoring	Quarterly	Start of operations
	A1 spot monitoring	Annually	Start of operations
Hydrogen chloride	A1 continuous monitoring	Quarterly	Start of operations
	A1 spot monitoring	Annually	Start of operations
Carbon monoxide	A1 continuous monitoring	Quarterly	Start of operations
	A1 spot monitoring	Annually	Start of operations
Ammonia	A1 spot monitoring	Annually	Start of operations

Table S5.2: Annual production/treatment

Parameter	Units
Power generated	GWHrs

Table S5.3 Performance parameters

Parameter	Frequency of assessment	Units
Fuel oil used	Annually	tonnes
Biomass used	Annually	tonnes
Electrical power used on site	Annually	GWHrs
Electrical power exported to the National Grid	Annually	GWHrs

Table S5.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Agency	23/12/09
Energy usage	Form energy 1 or other form as agreed in writing by the Agency	23/12/09
LCPD Reporting - Energy Usage summary for the year:	Form AAEL or other form as agreed in writing by the Agency	23/12/09
Releases of LCPD Pollutants to Air from NERP Participating Plants	FORM RTA 1 or other form as agreed in writing by the Agency	23/12/09
Other performance indicators	Form performance 1 or other form as agreed in writing by the Agency	23/12/09

Schedule 6 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	EPR/TP3538GF
Name of operator	MGT Teesside Limited
Location of Facility	Tees Renewable Energy Plant,
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of MGT Teesside Limited

Schedule 7 - Interpretation

"*accident*" means an accident that may result in pollution.

"*annually*" means once every year.

"*application*" means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

"*authorised officer*" means any person authorised by the Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

"*background concentration*" means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

"*biomass*" means:

- a) vegetable matter from agriculture and forestry;
- b) vegetable waste from the food processing industry, if the heat generated is recovered;
- c) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered;
- d) cork waste;
- e) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste.

"*calendar monthly mean*" means the value across a calendar month of all validated hourly means.

"*Combustion Technical Guidance Note*" means Technical Guidance Note EPR1.01 Combustion Activities, March 2009 published by Environment Agency.

"*DLN*" means dry, low NO_x burners.

"*emissions to land*", includes emissions to groundwater.

"*EP Regulations*" means The Environmental Permitting (England and Wales) Regulations SI 2007 No.3538 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

"*fugitive emission*" means an emission to air, water or land from the activities from a localised or diffuse source which is not controlled by an emission or background concentration limit.

"*groundwater*" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"*large combustion plant*" or "*LCP*" is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MWth or more, based on gross calorific value.

"*Large Combustion Plant Directive*" means Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants.

"*MCERTS*" means the Environment Agency's Monitoring Certification Scheme.

"*mcr*" means maximum continuous rating.

"*Natural gas*" means naturally occurring methane with no more than 20% by volume of inert or other constituents.

"*National Emission Reduction Plan*" (NERP) is the plan issued by Defra in accordance with Article 4.6 of the Large Combustion Plants Directive and associated guidance.

"*NERP Register*" means the register maintained by the Environment Agency in accordance with regulation 6(1) of the Large Combustion Plants (National Emission Reduction Plan) Regulations 2007.

"*ncv*" means net calorific value.

"*operational hours*" are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

"*quarter*" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"*SI*" means site inspector

Waste code means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

"*year*" means calendar year ending 31 December.

END OF PERMIT

Permit Number: EPR/TP3538GF Operator: MGT Teesside Limited

Facility: Tees Renewable Energy Plant Form Number: Air1 - 23/12/09

Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Uncertainty ⁽⁴⁾
A1	Particulate Matter	20 mg/m ³	Continuous		BS EN 13284-1		
A1	Particulate Matter	20 mg/m ³	1 hour period		BS EN 13284-1		
A1	Hydrogen chloride	30 mg/m ³	1 hour period		BS EN 1911		
A1	Carbon monoxide	100 mg/m ³	(average of ½-hour averages) over minimum 4 hour period		BS EN 15058		
A1	Sulphur dioxide	200 mg/m ³	(average of hourly averages) over minimum 4 hour period		BS EN 14791		
A1	Sulphur dioxide	150 mg/m ³	Continuous		BS EN 15267-3		
A2	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/m ³	(average of ½-hour averages) over minimum 4 hour period		BS EN 14792		

(1) The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

- (2) Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.
- (3) For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
- (4) The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed Date.....
(Authorised to sign as representative of MGT Teesside Limited)

Permit Number: EPR/TP3538GF

Operator: MGT Teesside Limited

Facility: Tees Renewable Energy Plant

Form Number: Energy1 - 23/12/09

Reporting of Energy Usage for the year

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Biomass wood chip fuel used			
Gas-oil used			
Electricity generated			
Electricity exported to the National Grid			
Electricity used on site			

* Conversion factor for delivered electricity to primary energy = 2.6

Operator's comments :

Signed

(Authorised to sign as representative of MGT Teesside Limited)

Date.....

Permit Number: EPR/TP3538GFOperator: MGT Teesside Limited

Facility: Tees Renewable Energy PlantForm Number: Performance1 - DD/MM/YYYY

Reporting of other performance indicators for the period DD/MM/YYYY to DD/MM/YYYY

Parameter	Units
Water usage	m3/tonne biomass combusted
Energy usage	MWh/tonne waste combusted
Gas oil consumption	kg/tonne biomass combusted
Total ammonia used	kg/tonne biomass combusted
Total CaOH/lime used	kg/tonne biomass combusted
Total activated carbon used	kg/tonne biomass combusted
Total Air Pollution Control residues disposed of	kg/tonne biomass combusted
Total bottom ash generated	kg/tonne biomass combusted
Total bottom ash recycled	kg/tonne biomass combusted

Operator's comments :

SignedDate.....

(Authorised to sign as representative of MGT Teesside Limited)

Electronic copy of this form available at:
<http://www.environment-agency.gov.uk/business/topics/pollution/32230.aspx>

FORM RTA 1

Releases of LCPD Pollutants to Air from NERP Participating Plants

Operational Summary for the year [Pick from list](#)

[Choose an operator then click 'Update site list' to get a list of relevant sites.](#)

Operator: [Pick from list](#)

Site Location: [Pick from list](#)

Original permit number: LCP:

Note: beginning 1 January 2008, a return is required for each LCP within 28 days of the end of each quarter.

Emissions	SO ₂ (tonnes)	NOx (tonnes)	Dust (tonnes)
January			
February			
March			
Total for Quarter 1	0	0	0
April			
May			
June			
Total for Quarter 2	0	0	0
July			
August			
September			
Total for Quarter 3	0	0	0
October			
November			
December			
Total for Quarter 4	0	0	0

I confirm that this data is not knowingly reported with any omissions, errors or misrepresentation. All measurement equipment used to generate the data has been appropriately calibrated and maintained regularly; this includes calibration against traceable international measurement standards where available. The data is supported by appropriate record keeping. IT is designed, documented, tested, implemented, controlled and maintained to ensure reliable, accurate and timely processing of data; data handling and calculations have been appropriate; data has been checked for false and unusual measurements. The annual report of emissions for the above participating large combustion plant has been verified in accordance with the requirements of the Large Combustion Plants (National Emission Reduction Plan) Regulations 2007.

Name of the operator staff responsible for the quality of data supplied to the Register in accordance with the principles above.

Date

Verified/Not Verified, name of Regulatory staff member.

Date

Electronic copy of form available at:
<http://www.environment-agency.gov.uk/business/topics/pollution/32230.aspx>

Form AAE1

LCPD Reporting - Energy Usage summary for the year: [Pick from list](#)

[Choose an operator then click 'Update value list' to get a list of relevant values.](#)

Operator: [Pick from list](#)

Site Location: [Pick from list](#)

Permit/Variation number: LCP:

Note: an annual return is required for each LCP every year starting 1 January 2008 and submitted by 31 January of the following year together with the annual emissions data of the

Parameter	Fuel					Total Energy input
	Biomass	Other solid fuels incl. coal	Liquid fuels	Natural gas	Other gases	
Fuel NCV (GJ/tonne)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Annual fuel usage (tonnes)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Annual energy input (GJ)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Signed on behalf of the Operator Date

Verified by Inspector Date