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Environment  
Agency Wales

## ENVIRONMENTAL PROTECTION ACT 1990. SECTION 37

### WASTE MANAGEMENT LICENCE NOTICE OF MODIFICATION

<b>LICENCE REF No:- (34)EAWML30021</b>	<b>FACILITY TYPE:- Landfill</b>
<b>LICENCE HOLDER:</b> The Trehir Development Company Ltd Shielling House Invincible Road Farnborough Hampshire GU14 7QU	<b>LICENSED FACILITY:</b> Trehir Quarry, Pandy Road, Llanbradach Nr. Caerphilly CF83 3RP

31 JAN 2007

**WHEREAS** on the 16<sup>th</sup> June 1988 the Rhymney Valley District Council issued a waste disposal licence (now to be treated as a waste management licence) in pursuance of its powers under the Control of Pollution Act 1974 for the above named facility to you.

**AND WHEREAS** on the 1<sup>st</sup> April 1996 the powers and duties of all waste regulation authorities in England and Wales transferred to the Environment Agency ("the Agency") by virtue of section 2 of the Environment Act 1995.

**AND WHEREAS** the conditions of the said licence may have been modified from time to time.

**NOTICE IS HEREBY GIVEN** that the Agency modifies the conditions of the said licence in accordance with Section 37 (1) (a) of the Environmental Protection Act 1990 and as set out in the Schedule attached to this notice.

Signed

  
Christopher Wright  
Team Leader-Regulatory Waste

Dated

17/1/07

This modification shall take effect on the 18<sup>th</sup> January 2007 on at 00.01 hours



## **RIGHTS OF APPEAL**

**Section 43(1) of the Environmental Protection Act 1990 provides that:**

**Where, except in pursuance of a direction given by the National Assembly for Wales, a licence is granted subject to conditions, the applicant may appeal from the decision to the National Assembly for Wales.**

**Therefore, if you feel aggrieved by the decision detailed on the attached notice, you may obtain the appropriate form on which to give written notice of an appeal from: -**

**The Planning Inspectorate  
Crown Buildings  
Cathays Park  
Cardiff  
CF10 3NQ**

**Tel: 02920 823859  
Fax: 02920 825150**

**This notice of appeal should be accompanied by the following information:**

**a statement of the grounds of appeal;**

**a copy of the licence;**

**a copy of any correspondence relevant to the appeal;**

**a copy of any other document relevant to the appeal including, in particular, any relevant consent, determination, notice, planning permission, established use certificate or certificate of lawful use or development and**

**a statement indicating whether you wish the appeal to be in the form of a hearing or on the basis of written representations.**

**You are also required to serve a copy of your notice of appeal, together with copies of any the above documents that have accompanied your notice of appeal, on the Environment Agency (at the address below). You should appeal within 6 months of the date that this notice takes effect but the National Assembly for Wales may allow notice of appeal to be given after the expiry of this time period.**

**Environment Agency Wales  
Rivers House  
St Mellons Business Park  
St Mellons  
Cardiff  
CF3 OEY**

**Asiantaeth yr Amgylchedd Cymru  
Plas-yr-Afon  
Parc Busnes Llanelirwg  
Llanelirwg  
Caerdydd  
CF3 OEY**

Modification of conditions under section 37 (1) (a) as follows:

**Delete condition:- 45**

**Delete and replace condition:- 17**

**Add:- extra determinand added to Table 51.3B**

**Delete and replace condition:- Table 52.2A**

**Add New conditions:- 57, 58.1, 58.2, 59, 60.1, 60.2, 60.3, 60.4, 60.5, 61.1, 61.2, 62.1, 62.2, 63, 64, 65.1, 65.2, 66, 67.1, 67.2**

17 No further wastes shall be accepted for disposal at the site.

51 Extra determinand.

Table 51.3B Standards for groundwater monitoring and sampling programme

Determinands	Monitoring frequencies
List 1 screening	Annually

52 Updated Table.

Table 52.2A Standards for surface water monitoring and sampling programme

Determinands	Monitoring frequencies	Trigger Levels
pH	Monthly	6-9 or otherwise agreed with the Agency in writing
Temperature	Monthly	None Set
Electrical Conductivity	Monthly	None Set
Dissolved oxygen	Monthly	None Set
Ammoniacal nitrogen	Monthly	0.6 mg/l or otherwise agreed by the Agency in writing*
Chlorides	Monthly	250 mg/l or otherwise agreed with Agency in writing
Chemical Oxygen demand	Monthly	40 mg/l or otherwise agreed with the Agency in writing
Level of surface water	Monthly	None Set

**Notes:**

\*This will include comparisons with upstream concentrations

57 The site shall, subject to the conditions of this licence, be operated using the techniques and in the manner described in the closure plan submitted on 3<sup>rd</sup> March 2006, the letter dated 3<sup>rd</sup> January 2007 and the subsequent correspondence on the 9<sup>th</sup> and 11<sup>th</sup> January, unless otherwise agreed by the Agency in writing.

**Landfill gas management systems: landfill gas collection, extraction, utilisation or disposal.**

*Provision of landfill gas management system*

- 58.1 Within 12 months from date of issue of modification, a landfill gas management system shall be provided, the objective of which shall be to collect, extract, utilise and dispose of landfill gas arising from the site in such a way that it does not cause pollution to the environment, harm to human health or serious detriment to the amenities of the locality.

*Design and operational standards for landfill gas management system*

- 58.2 The landfill gas management system for each cell or phase shall be designed, constructed, operated and maintained to meet the design and operational standards specified in Table 58.

**Table 58 Design and operational standards for landfill gas management system**

a) Landfill gas management system capacity and extent	The landfill gas management system shall have sufficient capacity and extent to enable the collection, extraction, utilisation or disposal of the landfill gas which is generated at its maximum rate in that cell or phase.
b) Landfill gas collection and extraction system	<p>The landfill gas collection and extraction system shall be designed, constructed and maintained to:</p> <ol style="list-style-type: none"><li>withstand physical damage from the loading imposed by the waste, and any compaction operations working over the system;</li><li>be resistant to chemical attack in the landfill internal environment;</li><li>avoid damage to the engineered containment which may be caused through the installation or loading of the landfill gas management system;</li><li>control and manage landfill gas condensate.</li></ol>
c) Landfill gas collection, utilisation and disposal	<p>Landfill gas collected and extracted from each cell or phase shall be:</p> <ol style="list-style-type: none"><li>utilised in a landfill gas engine(s) where practicable, or</li><li>disposed of in a high temperature enclosed flare.</li></ol> <p>These shall be operated and maintained in accordance with the other conditions of this modification.</p>

[Table continued overleaf]

**Table 58 Design and operational standards for landfill gas management system (continued)**

d) Operation, maintenance and review of landfill gas management system	<p>i. The landfill gas management system shall be operated and maintained to meet the standards specified in the other conditions of this modification for:</p> <ul style="list-style-type: none"> <li>a balancing the extraction system; and</li> <li>b limiting emissions from the site landfill gas utilisation system and flaring system provided.</li> </ul> <p>ii. A review of the maintenance and performance of the system shall be carried out on an annual basis, to ensure that the system is continuing to meet its design and performance standards. The first review shall be carried out not more than one year following the date of its commissioning, and subsequent reviews shall be carried out not more than one year following the previous review.</p> <p>iii. A written report of each review and its results shall be submitted in writing to the Agency within one calendar month of the review being completed.</p>
e) Action plan for failure of, or damage to components of, the landfill gas utilisation scheme or flare provided	<p>In the event of detection of a failure of a landfill gas engine, flare, or of damage to their components so that the system is inoperable, or combustion is incomplete:</p> <p>i. The utilisation system, flare or components shall be repaired or replaced within 72 hours, unless otherwise approved in writing by the Agency.</p>

***Design report on landfill gas management system***

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Prior to the installation of a landfill gas management system in a cell or phase, the licence holder shall submit to the Agency a written design report detailing the proposed engineered landfill gas management system, which shall include the information set out in Table 59. Following written agreement by the Agency of the submission design report, it shall be incorporated into the working plan.

**Table 59 Details to be included in report on landfill gas management system**

<b>a) Landfill gas management system infrastructure</b>	<b>Description, including design specification, scale drawings and location plans, for:</b> <ul style="list-style-type: none"> <li>i. any additional landfill gas barriers which are to be provided, other than those specified in the existing engineered landfill containment system for that cell or phase;</li> <li>ii. landfill gas collection and extraction pipes;</li> <li>iii. protection systems for landfill gas collection pipes, including condensate dewatering points;</li> <li>iv. pumping systems for landfill gas, including any storage systems prior to disposal or use.</li> </ul>
<b>b) Operation of the system</b>	<b>Description of how the landfill gas management system will be:</b> <ul style="list-style-type: none"> <li>i. operated;</li> <li>ii. maintained in accordance with the manufacturers' or designers' recommendations / specifications - this shall include a maintenance programme giving frequencies and subjects of inspection, with procedures, responsibilities, actions and deadlines for routine replacement and repair in the event of failed, defective or damaged components;</li> <li>iii. reviewed.</li> </ul>
<b>c) Utilisation or disposal systems for landfill gas</b>	<b>Description, including design specification and scale drawings and plans, for:</b> <ul style="list-style-type: none"> <li>i. landfill gas power units,</li> <li>ii. landfill gas flaring systems;</li> <li>iii. any alternative treatment or disposal systems, where these are to be provided.</li> </ul>

***Construction quality assurance of landfill gas management system***

- 60.1 Prior to construction of the landfill gas management system for each cell or phase a Construction Quality Assurance Plan covering all elements of the engineered landfill gas management system for that cell or phase shall be submitted in writing to the Agency.
- 60.2 Prior to construction of the landfill gas management system for each cell or phase, details of the identities, relevant qualifications of the personnel who will be providing Quality Assurance of the construction shall be submitted to the Environment Agency.
- 60.3 The engineered landfill gas management system for each cell or phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan.
- 60.4 Changes to the Construction Quality Assurance Plan and quality assurance personnel, shall not be implemented unless they have been agreed in writing by the Environment Agency.
- 60.5 Within 1 calendar month following completion of the landfill gas management system for each cell or phase, the Validation Report on the construction of the engineered landfill gas collection and extraction system for that cell or phase shall be submitted in writing to the Environment Agency.

## **Monitoring and balancing of landfill gas extraction**

### *Provision of landfill gas extraction monitoring system*

- 61.1 Within 12 months from date of issue of modification a landfill gas extraction monitoring system shall be provided in accordance with the following requirements of this condition. The objective of the landfill gas extraction monitoring system shall be to monitor the landfill gas being extracted from that cell or phase, and to enable the operation of the landfill gas collection and extraction system to be balanced against the landfill gas generated from that cell or phase.

### *Design and operational standards for landfill gas extraction monitoring system*

- 61.2 The landfill gas extraction monitoring system provided for each cell or phase shall be designed, constructed, inspected, maintained, documented and recorded to meet the standards specified in Table 61 below, unless otherwise approved in writing by the Agency.

**Table 61 Standards for landfill gas extraction monitoring system**

a) Design of landfill gas extraction monitoring points	i.	One monitoring point shall be installed on each gas extraction well or pipe on the 'well side' of any valve or manifold of the pipework.
	ii.	One monitoring point shall be provided on the gas pipe to the flarestack / utilisation plant.
	iii.	Each monitoring point shall permit a representative sample of landfill gas to be taken at any time.
b) Construction and installation of monitoring points		Each monitoring point shall be secure and protected from damage or vandalism.
c) Inspection and maintenance of monitoring points	i.	Monitoring points shall be inspected for defects and damage during each routine monitoring exercise.
	ii.	Defects and damage shall be noted in the site diary, remedial measures shall be undertaken as soon as possible and in any case within 1 month.
d) Records		A record shall be kept in the site diary of all remedial actions undertaken.

### *Quality assurance plan for monitoring of landfill gas*

- 62.1 Within 6 months of date of issue of modification, the licence holder shall submit in writing to the Agency a Quality Assurance Plan for the monitoring of landfill gas within the extraction system, which shall meet the standards specified in Table 62A.

**Table 62A Standards for quality assurance plan for monitoring of the landfill gas extraction system**

<b>Landfill gas monitoring and sampling records</b>	<b>Specified standards</b>
a) Quality assurance of monitoring and sampling	<ul style="list-style-type: none"> <li>i. Monitoring shall only be carried out by suitably competent and trained staff.</li> <li>ii. Validation of results shall be carried out by a designated quality assurer adequately experienced in landfill gas engineering.</li> <li>iii. Monitoring equipment shall be calibrated and serviced in accordance with the manufacturer's recommendations.</li> </ul>
b) Making of records	<p>Records shall include the following:</p> <ul style="list-style-type: none"> <li>i. Determinands monitored/sampled;</li> <li>ii. Specified details of measurements/samples to support analytical and Quality Assurance requirements: including dates, times, locations, personnel undertaking monitoring;</li> <li>iii. Results of measurements/sample analyses, with error limits;</li> <li>iv. Interpretation and review of results;</li> <li>v. Validation of accuracy of results by designated quality assurer.</li> </ul>
c) Submission of records	<ul style="list-style-type: none"> <li>i. A copy of the quality assured records of each monitoring and sampling result shall be made available for inspection by an authorised officer of the Agency at the site office.</li> <li>ii. Analysis and trends of the monitoring shall be incorporated in the review required under the other conditions of this licence.</li> </ul>

***Landfill gas extraction monitoring programme***

- 62.2 Monitoring of landfill gas within the extraction system for each cell or phase shall be carried out and recorded in accordance with the standards specified in Table 62B.



**Table 62B Standards for balancing and monitoring of extraction system**

<b>Landfill gas monitoring determinands</b>	<b>Monitoring frequencies</b>	<b>Units and accuracies</b>	<b>Trigger levels</b>
Methane	Monthly or otherwise agreed with the Agency in writing.	% $\pm$ 0.3%	<20%
Carbon dioxide	Monthly or otherwise agreed with the Agency in writing.	% $\pm$ 0.3%	No trigger level – information enabling balancing of landfill gas extraction
Oxygen	Monthly or otherwise agreed with the Agency in writing.	% $\pm$ 0.1%	>5%
Flow rate or suction	Monthly or otherwise agreed with the Agency in writing.	m <sup>3</sup> /h or mbar (+ or -)	No trigger level – information enabling balancing of landfill gas extraction
Openness of valve aperture (for use on manifold systems)	Monthly or otherwise agreed with the Agency in writing.	% open	No trigger level – information enabling balancing of landfill gas extraction
Priority trace components of raw landfill gas as detailed in LFTGN 04, prior to combustion.	Annually from commissioning the extraction system	As detailed in LFTGN 04	No trigger levels – information supporting analysis of landfill gas generation and emissions from the site
Temperature	On demand	°C $\pm$ 0.5°C	No trigger level – information enabling balancing of landfill gas extraction

**Notes:**

Monitoring frequencies specified are for minimum frequencies upon commissioning the extraction system. The frequency of monitoring subsequent to this shall remain flexible dependant on the performance profile of individual wells. A reduction in the balancing and monitoring must be agreed in writing with the Agency not more frequently than once per quarter.

The frequency of monitoring on an actively producing site shall not diminish below monthly monitoring.

**Landfill gas extraction balancing**

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In the event that any of the results of the landfill gas extraction monitoring exceed the relevant trigger levels specified in Table 62B above, immediate action shall be taken to balance the system to ensure that the measured values are maintained above the methane trigger level and / or below the oxygen trigger level.

## **Monitoring and reporting of emissions from landfill gas engines**

### *Quality assurance plan for monitoring of engine emissions*

- 64 Within 6 months of date of issue of modification, the licence holder shall submit in writing to the Agency a Quality Assurance plan for the monitoring of emissions from the engine(s), which shall meet the standards specified in Table 64 below:

**Table 64 Specified standards for quality assurance plan for monitoring of emissions from landfill gas engine(s)**

<b>Monitoring and sampling records</b>	<b>Specified details</b>
a) Quality assurance of monitoring and sampling	<ul style="list-style-type: none"><li>i. Monitoring shall only be carried out by suitably competent / qualified staff.</li><li>ii. Monitoring equipment shall be calibrated and serviced in accordance with the manufacturer's recommendations.</li></ul>
b) Making of records	<p>Records shall include the following:</p> <ul style="list-style-type: none"><li>i. Determinands monitored/sampled;</li><li>ii. Specified details of measurements/samples to support analytical and Quality Assurance requirements; including dates, times, locations, personnel undertaking monitoring;</li><li>iii. Results of measurements/sample analyses, with error limits;</li><li>iv. Interpretation and review of results with an allowance made for Uncertainty;</li><li>v. Validation of accuracy of results by designated quality assurer.</li></ul>
c) Submission of records	A copy of the quality assured records of each monitoring and sampling result shall be submitted to the Agency within 1 month of its being carried out.

### *Emission monitoring and sampling programme*

- 65.1 Monitoring of emissions from the engine(s) shall be carried out to measure and record the determinands specified in Table 65 in accordance with the specified standards, and the measurements shall be made and recorded in accordance with the Quality Assurance plan.
- 65.2 The limits in Table 65 shall not be exceeded.

Table 65 Landfill gas engine emission monitoring and sampling programme

Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Gas utilisation engine(s) that will be located within the gas control compound	Nitrogen Oxides (NOx)	Utilisation plant exhaust	500 mg/ m <sup>3</sup>	Hourly mean	Annually	In accordance with guidance in LFTGN 08
	Carbon Monoxide (CO)	Utilisation plant exhaust	1,400 mg/ m <sup>3</sup>	Hourly mean	Annually	
	Total volatile organic compounds (VOCs)	Utilisation plant exhaust	1,000 mg/ m <sup>3</sup>	Hourly mean	Annually	
	Non methane volatile organic compounds (NMVOCs)	Utilisation plant exhaust	75 mg/ m <sup>3</sup>	Hourly mean	Annually	

**Notes:**

1. Limits refer to spark ignition engines commissioned after 31 December 2005, as detailed in Table B of Environment Agency Guidance for Monitoring Landfill Gas Engine Emissions (LFTGN 08.) For engines commissioned prior to this date, the limits in Table A apply.
2. References to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Landfill Gas Engine Emissions (LFTGN 08)

**Monitoring and reporting of emissions from landfill gas flares**

*Quality assurance plan for monitoring of flare emissions*

- 66 Within 6 months of date of issue of modification the licence holder shall submit in writing to the Agency a Quality Assurance plan for the monitoring of emissions from the flare, which shall meet the standards specified in Table 66 below:

**Table 66 Specified standards for quality assurance plan for monitoring of emissions from landfill gas flares**

<b>Monitoring and sampling records</b>	<b>Specified details</b>
d) Quality assurance of monitoring and sampling	<ul style="list-style-type: none"> <li>iii. Monitoring shall only be carried out by suitably competent / qualified staff.</li> <li>iv. Monitoring equipment shall be calibrated and serviced in accordance with the manufacturer's recommendations.</li> </ul>
e) Making of records	<p>Records shall include the following:</p> <ul style="list-style-type: none"> <li>i. Determinands monitored/sampled;</li> <li>ii. Specified details of measurements/samples to support analytical and Quality Assurance requirements; including dates, times, locations, personnel undertaking monitoring;</li> <li>iii. Results of measurements/sample analyses, with error limits;</li> <li>iv. Interpretation and review of results with an allowance made for Uncertainty;</li> <li>v. Validation of accuracy of results, by designated quality assurer.</li> </ul>
f) Submission of records	A copy of the quality assured records of each monitoring and sampling result shall be submitted to the Agency within 1 month of its being carried out.

***Emission monitoring and sampling programme***

- 67.1 Monitoring of emissions from the flare shall be carried out to measure and record the determinands specified in Table 67 in accordance with the specified standards, and the measurements shall be made and recorded in accordance with the Quality Assurance plan.
- 67.2 The limits in Table 67 shall not be exceeded.

**Table 67 Landfill gas flare emission monitoring and sampling programme**

<b>Emission point Ref. &amp; Location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (Including unit)</b>	<b>Reference Period</b>	<b>Monitoring Frequency</b>	<b>Monitoring Standard or Method</b>
High Temperature enclosed gas flare that will be located within the gas control compound	Nitrogen Oxides (NOx)	Flarestack	150 mg/ m <sup>3</sup>	Hourly mean	Annually	In accordance with guidance in LFTGN 05 (including any subsequent amendments)
	Carbon Monoxide (CO)	Flarestack	50 mg/ m <sup>3</sup>	Hourly mean	Annually	
	Total volatile organic compounds (VOCs)	Flarestack	10 mg/ m <sup>3</sup>	Hourly mean	Annually	
	Non methane volatile organic compounds (NMVOCs)	Flarestack	5 mg/ m <sup>3</sup>	Hourly mean	Annually	

**Note:**

References to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares (LFTGN 05)

