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DATE SCANNED 4/8/06

Asiantaeth yr Amgylchedd Cymru
Environment Agency Wales

ENVIRONMENTAL PROTECTION ACT 1990.
SECTION 37

WASTE MANAGEMENT LICENCE
NOTICE OF MODIFICATION

LICENCE REF No:- EAWML/37082 (314-103/93) **LICENCE HOLDER:-** **Cwmni Gwastraff Mon Arfon Cyfyngedig** **Barclays Bank Chambers** **5-7 Bangor Street** **Caernarfon** **Gwynedd, Ll55 1AE** **Company Registration - 02666046**	**FACILITY TYPE:- Landfill Site** **LICENSED FACILITY:-** **Cilgwyn Landfill** **Carmel** **Penygroes** **Gwynedd** **LL55 1AE** **SH**

WHEREAS on the 12 November 1993 the Arfon Borough Council issued a waste disposal licence (now to be treated as a waste management licence) in pursuance of its powers under Part I of the Control of Pollution Act 1974, for the above named facility to you.

AND WHEREAS on the 1st 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 on 6th November 1995, 14th January 1998, 1st Jun 1998, 31st March 1999, 27th March 2000, 28th March 2003 and the 28th April 2006 the Environment Agency modified the conditions of the said licence.

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 : _____ Name: **Steve Parkinson**
Team Leader Environment Management

Dated : 02 August 2006

This modification shall take effect on **4 August 2006** at 00.01 hours

YOUR ATTENTION IS DRAWN TO THE RIGHTS OF APPEAL AT THE END OF THIS NOTICE.

Environment Agency, Llwyn Brain, Ffordd Penlan, Parc Menai, BANGOR, Gwynedd, LL57 4BP

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Environment Agency Wales

EXPLANATORY NOTES - including rights of appeal.

RIGHTS OF APPEAL

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

Where, except in pursuance of a direction given by the Secretary of State, the conditions of a licence are modified, the licence holder may appeal from the decision to the Secretary of State.

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
Room 4/19
Eagle Wing, Temple Quay House
2 The Square
Temple Quay
Bristol
BS1 6PN

Tel: 0117 987 8812
Fax: 0117 987 6093

For Wales, the address is – 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 any application to modify the licence

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 overleaf). You should appeal within 6 months of the date that this notice takes effect but the Secretary of State may allow notice of appeal to be given after the expiry of this time period.

ENVIRONMENT AGENCY

Modification Conditions - Landfill Gas Management

Modification to manage risks arising from landfill gas generation and emissions, including odours.

Licence number
EAWML/37082

Cilgwyn Landfill
Carmel
Penygroes
Gwynedd
LL55 1AE

Table 11.3D Standards for balancing and monitoring of extraction system			
Landfill gas monitoring determinands at each well or manifold (unless stated)	**Monitoring frequencies**	**Units and accuracies**	**Trigger levels**
Methane	Fortnightly from commissioning the extraction system	% ± 0.3%	< 40% v/v or a change in concentration of more than 20% v/v from previous results
Carbon dioxide	Fortnightly from commissioning the extraction system	% ± 0.3%	Ratio of methane: carbon dioxide should be > 1.1
Oxygen	Fortnightly from commissioning the extraction system	% ± 0.1%	>5% at each well
Nitrogen	Fortnightly from commissioning the extraction system	% calculated as balance of total other gases	> 20% v/v at each well
Flow rate or suction	Fortnightly from commissioning the extraction system	m^3/h or(±) mbar	No trigger level – information enabling balancing of landfill gas extraction
Openness of valve aperture (for use on manifold systems)	Fortnightly from commissioning the extraction system	% open	No trigger level – information enabling balancing of landfill gas extraction
Composition [including trace components] of raw landfill gas from the extraction line, prior to the disposal system	Annually	$\mu g/m^3$	No trigger level – information supporting analysis of landfill gas generation and emissions from the site
Carbon Monoxide	Monthly	ppmv	>25 May indicate possible hotspot or fire. Confirm readings by Gas Chromatography

11.3 Monitoring and balancing of landfill gas extraction

Monitoring programme for landfill gas extraction system

11.3.10 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 **11.3D** below. Variation of monitoring frequencies and / or trigger levels can be dependent on stabilisation and performance profiling of wells and cells. Any proposed changes to the frequencies and / or trigger levels require prior agreement with the Agency and incorporation into the Working Plan.

Table 11.1A 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 and disposal or use of the landfill gas which is generated at its maximum rate in that cell or phase.
b) Landfill gas collection and extraction system	The landfill gas collection and extraction system shall be designed, constructed and maintained to: i. withstand physical damage from the loading imposed by the waste, and any compaction operations working over the system; ii be resistant to chemical attack in the landfill internal environment; iii avoid damage to the engineered containment which may be caused through the installation or loading of the landfill gas management system; iv control and manage landfill gas condensate.
c) Landfill gas treatment, disposal and utilisation	Except where a landfill gas utilisation system or alternative system of disposal has been implemented and is being operated and maintained in accordance with the other conditions of this modification, landfill gas collected and extracted from each cell or phase shall be treated and disposed of through a landfill gas flaring system. The flare should be designed and the combustion air supply should be controlled so as to achieve a minimum of 1,000°C and 0.3 seconds retention time at this temperature whatever the landfill gas composition and operational throughput. This is an indicative performance standard that is required to meet the emission standard. Alternative performance standards may be deemed more appropriate if compliance with the emission standard is suitably demonstrated
d) Operation, maintenance and review of landfill gas management system:	i The landfill gas management system shall be operated and maintained to meet the standards specified in the other conditions of this modification for: • balancing the extraction system; and • limiting emissions from the site, landfill gas flaring system and any landfill gas utilisation system provided. ii Telemetry shall be provided and maintained between the specified nominated person and any part of permanent landfill gas system and any landfill gas utilisation system provided, and shall be managed to provide immediate notification to specified nominated person , so as to ensure that failure of the system at any time is notified immediately to the site management. iii A review of all component parts of the gas management 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. iv 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.
e) Action plan for failure of, or damage to components of, the landfill gas flare and any landfill gas utilisation scheme provided.	In the event of detection of a failure of a landfill gas flare or any landfill gas utilisation system provided, or of damage to their components: i the Agency shall be notified immediately; and ii the flare or utilisation system shall be repaired or replaced within 12 hours, unless otherwise agreed in writing by the Agency.

11.1 Landfill gas management systems: landfill gas collection, extraction and disposal or use

Design and operational standards for landfill gas management system

11.1.2 The landfill gas management system for each cell or phase shall be designed, constructed, operated, maintained and monitored to meet the design and operational standards specified in table **11.1A**

11.5 Monitoring and control of landfill gas utilisation systems and alternative systems of disposal

11.5.2 Monitoring, maintenance and control of emissions from the utilisation system or alternative disposal system shall be carried out in accordance with Table **11.5A** unless alternative agreed in writing with the Agency and incorporated into the Working Plan.

Table 11.5A Standards for emission monitoring and sampling programme of utilisation plant.

Emission monitoring determinands	**Monitoring frequencies**	**Units and accuracies referenced to NTP at 0°C + 1013mbar + 5%O_2**
Total chlorinated hydrocarbons within inlet gas	monthly upon commissioning, after first quarter annually thereafter.	mg/Nm^3±1 mg/Nm^3
Unburned hydrocarbons	monthly upon commissioning, after first quarter annually thereafter.	mg/Nm^3±1 mg/Nm^3
Oxides of nitrogen (NO_x)	monthly upon commissioning, after first quarter annually thereafter.	mg/Nm^3±1 mg/Nm^3
Sulphur Dioxide (SO_2)	monthly upon commissioning, after first quarter annually thereafter.	mg/Nm^3±1 mg/Nm^3
Carbon monoxide (CO)	monthly upon commissioning, after first quarter annually thereafter.	Mg/Nm^3±1 mg/Nm^3
Hydrogen chloride (HCl)	monthly upon commissioning, after first quarter annually thereafter.	Mg/Nm^3±1 mg/Nm^3
Hydrogen Fluoride (HF)	monthly upon commissioning, after first quarter annually thereafter.	Mg/Nm^3±1 mg/Nm^3
Polycyclic aromatic hydrocarbons	third month after commissioning, then at one year, thereafter every two years.	µg/Nm^3±1 µg/Nm^3
PCDDs	third month after commissioning, then at one year, thereafter every two years.	µg/Nm^3±1 µg/Nm^3
PCDFs	third month after commissioning, then at one year, thereafter every two years.	µg/Nm^3±1 µg/Nm^3
Organosulphur compounds	third month after commissioning, then at one year, thereafter every two years.	µg/Nm^3±1 µg/Nm^3
Temperature	monthly	°C ±1%
Other halogenated organic compounds	third month after commissioning, then at one year, thereafter every two years.	µg/Nm^3±1 µg/Nm^3

Add Amended Conditions:

11. 4 Monitoring and reporting of emissions from landfill gas flares

Emission monitoring and sampling programme

11.4.2 Upon commissioning of the landfill gas flare for a cell or phase, and from then on, monitoring of emissions from the flare shall be carried out to measure and record the determinands specified in table **11.4B** in accordance with the specified standards, and the measurements shall be made and recorded in accordance with the agreed quality assurance plan.

Table 11.4B Landfill gas flare monitoring programme – determinands and standards

monitoring determinand	Monitoring frequencies	Units and accuracies	Trigger levels at NTP and 3% O_2, unless otherwise agreed in writing by the Agency
Unburned hydrocarbons	6 monthly from commissioning system	mg/Nm^3± 1 mg/Nm^3	≤10 mg/Nm^3
Oxides of nitrogen (NO_x)	6 monthly from commissioning system	mg/Nm^3± 1 mg/Nm^3	≤150 mg/Nm^3
Carbon monoxide (CO)	6 monthly from commissioning system	mg/Nm^3± 1 mg/Nm^3	≤50 mg/Nm^3
Temperature	6 monthly from commissioning system	°C ± 1%	≥1000°C.*
Retention time	6 monthly from commissioning system	seconds ± 0.01 seconds	≥ 0.3 seconds*
Gas Flow Rate	6 monthly from commissioning system	Cubic metres of landfill gas per hour ±1%	Minimum level recommended in the relevant design specification
Sulphur Dioxide (SO_2)	Annually from commissioning system	mg/Nm^3± 1 mg/Nm^3	No trigger level – information supporting analyses of results
Hydrogen Chloride (HCl)	Annually from commissioning system	mg/Nm^3± 1 mg/Nm^3	No trigger level – information supporting analyses of results
Hydrogen Fluoride (HF)	Annually from commissioning system	mg/Nm^3± 1 mg/Nm^3	No trigger level – information supporting analyses of results
Trace compounds & Furans / Dioxins	Annually from commissioning system	μg/Nm^3± 1 μg/Nm^3	No trigger level – information supporting analyses of results

Note: NTP = Normal Temperature and Pressure at 0°C and 1013 mbar.

* Unless alternative performance criteria demonstrated to meet desired emission standards above.

Table 11.3D Standards for balancing and monitoring of extraction system			
Landfill gas monitoring determinands at each well or manifold (unless stated)	**Monitoring frequencies**	**Units and accuracies**	**Trigger levels**
Methane	Fortnightly from commissioning the extraction system	% ± 0.3%	<20% increase or decrease based on site specific conditions
Carbon dioxide	Fortnightly from commissioning the extraction system	% ± 0.3%	No trigger level – information enabling balancing of landfill gas extraction
Oxygen	Fortnightly from commissioning the extraction system	% ± 0.1%	>5% at each well
Flow rate or suction	Fortnightly from commissioning the extraction system	m^3/h or(±) mbar	No trigger level – information enabling balancing of landfill gas extraction
Openness of valve aperture (for use on manifold systems)	Fortnightly from commissioning the extraction system	% open	No trigger level – information enabling balancing of landfill gas extraction
Composition [including trace components] of raw landfill gas from the extraction line, prior to the disposal system	6 monthly	$\mu g/m^3$	No trigger level – information supporting analysis of landfill gas generation and emissions from the site
Temperature (at each well head)	Fortnightly	°C ± 0.5°C	No trigger level – information enabling monitoring of landfill gas extraction

Landfill gas extraction balancing

11.3.11 In the event that any of the results of the landfill gas extraction monitoring exceed the relevant trigger levels specified in table **11.3D** above, immediate action shall be taken to balance the system to ensure that the measured values are maintained in accordance with the specified trigger levels.

11. 3 Monitoring and balancing of landfill gas extraction

Monitoring programme for landfill gas extraction system

11.3.10 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 **11.3D** below. Variation of monitoring frequencies and / or trigger levels can be dependent on stabilisation and performance profiling of wells and cells. Any proposed changes to the frequencies and / or trigger levels require prior agreement with the Agency and incorporation into the Working Plan.

Table 11.1A 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 and disposal or use of the landfill gas which is generated at its maximum rate in that cell or phase.
b)	Landfill gas collection and extraction system	The landfill gas collection and extraction system shall be designed, constructed and maintained to: i. withstand physical damage from the loading imposed by the waste, and any compaction operations working over the system; ii. be resistant to chemical attack in the landfill internal environment; iii. avoid damage to the engineered containment which may be caused through the installation or loading of the landfill gas management system; iv. control and manage landfill gas condensate.
c)	Landfill gas treatment, disposal and utilisation	Except where a landfill gas utilisation system or alternative system of disposal has been implemented and is being operated and maintained in accordance with the other conditions of this modification, landfill gas collected and extracted from each cell or phase shall be treated and disposed of through a landfill gas flaring system.
d)	Operation, maintenance and review of landfill gas management system:	i. The landfill gas management system shall be operated and maintained to meet the standards specified in the other conditions of this modification for: • balancing the extraction system; and • limiting emissions from the site, landfill gas flaring system and any landfill gas utilisation system provided. ii. Telemetry shall be provided and maintained between the specified nominated person and any part of permanent landfill gas system and any landfill gas utilisation system provided, and shall be managed to provide immediate notification to specified nominated person , so as to ensure that failure of the system at any time is notified immediately to the site management. iii. temperature of the flare, and oxygen and methane in the input gas iv. A review of all component parts of the gas management 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. v. 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.
e)	Action plan for failure of, or damage to components of, the landfill gas flare and any landfill gas utilisation scheme provided.	In the event of detection of a failure of a landfill gas flare or any landfill gas utilisation system provided, or of damage to their components: i. the Agency shall be notified immediately; and ii. the flare or utilisation system shall be repaired or replaced within 12 hours. Time to be based on site specific assessment, unless otherwise agreed in writing by the Agency.

SCHEDULE – CONDITIONS RELATING TO THIS MODIFICATION

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

Delete Conditions

11.1 Landfill gas management systems: landfill gas collection, extraction and disposal or use

Design and operational standards for landfill gas management system

11.1.2 The landfill gas management system for each cell or phase shall be designed, constructed, operated, maintained and monitored to meet the design and operational standards specified in table **11.1A**