EAWML/37027

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Permit with introductory note

Pollution Prevention and Control Regulations 2000
Landfill Regulations 2002

Llanddulas Landfill Site

3C Waste Limited
Llanddulas Landfill Site
Abergele Road
Llanddulas
Conwy
North Wales LL22 8HP

Permit number

BU0800

Contents

Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 6 of the Landfill (England and Wales) Regulations 2002 (S.I.2002 No.1559) ("the Landfill Regulations") and Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate an installation carrying out activities covered by the description in Section 5.2 A (1)(a) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

(a) The disposal of waste in a landfill receiving more than 10 tonnes of waste in any day or with a total capacity of more than 25,000 tonnes, excluding disposals in landfills taking only inert waste.

There may be some activities on the installation to which BAT applies because they are not Landfill activities. Therefore, in some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do not explain what is BAT. In determining BAT, the Operator should pay particular attention to the appropriate Horizontal guidance (H1 to H4) and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows:

The installation as shown on Drawing Number LL1 dated December 2003 entitled "Installation Boundaries" is at Llanddulas, Conwy, North Wales. The installation comprises of a biological leachate treatment plant with a treatment capacity greater than 50 cubic metres per day, three gas engines with a total combined thermal input capacity greater than 3 megawatts together with three main areas for landfilling as follows:

Phase 1 and 3 previously operated in accordance with waste management licence CBC06.

Phase 2 previously operated in accordance with waste management licence CBC08.

Phase 3a is included in the Permitted Installation of the site. This area was not previously licensed.

The wastes authorised to be deposited within the installation consist of a specified range of household and non-hazardous industrial and commercial waste with a total quantity of approximately 5.2 million tonnes, including previously deposited waste under the superseded waste management licences. The permit condition 2.1.4 restricts the waste input to no more than 600,000 tonnes per year.

The main potential sources of emissions are:

- leachate with the implications of pollution to surface and groundwater and nuisance from malodour and
- migration of landfill gas causing malodorous nuisance and the potential in exceptional circumstances to cause an explosion in an enclosed space and
- fugitive emissions of landfill gas causing a reduction in the local air quality and contributing to greenhouse gases globally and
- point source emissions of exhaust gases from flares and the gas engines produce exhaust gases that have been subject to a risk assessment in accordance with "Horizontal Guidance Note IPPC H1, Integrated Pollution Prevention and Control (IPPC), Environmental Assessment and Appraisal of BAT" and dispersion modelling.

A hydrogeological risk assessment has been completed to assess the risk of polluting substances discharging to groundwater from the waste.

The base of the landfill is above the groundwater table.

The design and standards of construction of the engineered protection measures for the installation are based on the results of this groundwater risk assessment.

The new area for engineering ie: phase 3A will be engineered to encapsulate the waste in low permeability engineered clay and plastic liners on the base and outer sides of the site with additional and engineered fill beneath the lining system. Engineered systems are installed to collect, control and monitor leachate and landfill gas produced by the degradation of the waste. The integrity of the engineered liner and its ability or otherwise to prevent leachate migration into the groundwater, is monitored and assessed by carrying out sampling and chemical testing of groundwater and leachate quality respectively from the external groundwater monitoring boreholes and internal leachate monitoring wells. Gauging of leachate and groundwater heads are also part of the monitoring regime. On site leachate is treated in an on site biological treatment plant prior to disposal to sewer.

Landfill gas is actively controlled by pumping, extraction, flaring and or utilisation by combustion in gas engines. Monitoring boreholes outside the liner systems are sampled and analysed to check for the presence of landfill gas. This enables a check to be kept on the containment / liner integrity and its ability or otherwise to prevent landfill gas migration. Landfill gas is sampled and analysed within the waste mass.

Landfilling significant quantities of waste can cause additional environmental pollution due to the release or escape of dust, odour, litter and noise and other environmental nuisances such as flies, rodents, gulls or other pests. The Permit conditions require specific mitigation measures and monitoring to be carried out which are documented by the Permit holder.

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Superseded Licences/Authorisations/Consents relating to this installation				
Holder	**Permit Type**	**Permission for**	**Reference Number**	**Date of Issue**
3C Waste Ltd	Waste Management Licence	Landfill phase 1 and 3, Landfill Gas Plant and leachate treatment plant	CBC06,	15/1/92
3C Waste Ltd	Waste Management	Landfill phase 2	CBC08	3/11/92

Other activities may take place on the site of this installation which are not regulated under this Permit or any other PPC Permit referred to in the table above. These activities include:

Exemptions relating to this installation			
Exemption holder	**Exemption Reference number and location**	**Date of Issue**	**Exemption Schedule 3 The Waste Management Licensing Regulations 1994 as amended.**
Waste Recycling Group Ltd	WW1/E/L/WRG001/0001 Grid reference SH 90321 7752	21/03/2001	Para 13 13(1) Manufacture of products from waste 13(2) Manufacture of soil/soil substitutes 13(3) Treatment of waste soil, rock for spreading on land 13(4) Storage of waste for manufacture of soil etc

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

This Permit may be varied in the future (by the Agency serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. As the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.
To give a Notification under condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

Status Log

Detail	Date	Comment
Application BU2853	Received 27 February 2003	
Application BU0800	Received 9 June 2003	Applicant agreed that separate applications should be conjoined- see letter dated 30 January 2004, Ref: 4D-197-126
Response to request for information 1	Received 30 June 2003	Responses to statutory consultee comments for Phases 2 and 3A
Response to request for information 2	Received 22 July 2003	Reference: 4D-197-126, dated July 2003, comprising 3 documents regarding hydrogeology and stability (2 documents)
Supplementary information	Dated 9 December 2003	List of waste types for acceptance at the Llanddulus Landfill
Request to extend determination	8/10/2003-	Extended to 17/10/2003
Request to extend determination	16/10/2003	Extended to 10/11/2003
Request to extend determination	10/11/2003	Extended to 1/12/2003
Permit BU0800	Determined 6 February 2004	

End of introductory Note.

ENVIRONMENT AGENCY

Permit

Permit number
BU0800

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations (SI 2000 No 1973), and Regulation 6 of the Landfill (England and Wales) Regulations (S.I.2002 No.1559) hereby authorises

3C Waste Limited ("the Operator"),

whose Registered Office is

3 Sidings Court
White Rose Way
Doncaster
South Yorkshire
DN4 5NU

Company registration number 02632581

to operate an installation at
Llanddulas Landfill Site
Abergele Road
Llanddulas
Conwy
North Wales
LL22 8HP

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

The landfill authorised by this Permit is for the disposal of non hazardous waste

Signed	Date
Emyr Jones	6 February 2004

Emyr Jones

Authorised to sign on behalf of the Agency

Conditions

1 General

1.1 Permitted Activities

1.1.1 The Operator is authorised to carry out the activities and/or the associated activities specified in Table 1.1.1.

Table 1.1.1

Activity listed in Schedule 1 Part 1 of the PPC Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Chapter 5 Section 5. 2(a)	The disposal of waste in a Non-hazardous Landfill (landfill classification under the Landfill Regulations 2002)	Receipt, handling, storage and disposal of non-hazardous and inert wastes as in condition 2.1.4, and in those quantities as specified in condition 2.1.3 and 2.1.4, as an integral part of landfilling.
Directly associated activity	Discharge of uncontaminated surface water from installation surface water drainage	From surface water management system of the Permitted installation to point of entry to controlled waters as indicated on Drawing Nº ESID 13 B entitled "Monitoring Points"
Chapter 1Section 1.1 (b) (iii)	Combustion of landfill gas in engines to produce electricity.	Collection, flaring and/or utilisation of landfill gas produced within the boundary of the Permitted Installation only. Flaring and/or utilisation shall only take place within the compound detailed on Drawing Nº ESID 4 entitled "Site Layout and Waste Disposal" (Llanddulus Landfill phase 1 & 3) or other location which shall be agreed in writing by the Agency.
Directly associated activity	Pumping extraction and flaring of landfill gas.	Landfill gas arising from the Permitted installation
Chapter 5 Section 5.3 (c) (i)	Disposal of non- hazardous waste other than by incineration or landfill (Storage, biological treatment and disposal of leachate).	Leachate arising from the Permitted Installation. The storage and treatment of leachate shall only take place in the leachate treatment plant detailed on Drawing Nº ESID4 entitled "Site Layout and Waste Disposal" (Llanddulus Landfill Phase 1 and 3) and operated in accordance with the working statement entitled "Llanddulus Landfill Site Leachate Treatment Facility (issue date 1 May 2002 and dated November 2003).
Directly associated activity	Leachate pumping and extraction of leachate	Leachate arising from the Permitted Installation

1.1.2 Where waste on site is subjected to activities that are exempt from control under the Waste Management Licensing Regulations 1994 then the wastes controlled under condition 1.1.1, above, shall be clearly identified and kept separate from such exempt waste activities and a record shall be kept of where such exempt activities are conducted.

1.2 Site

1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in green on the Site Plan at Schedule 5 to this Permit.

1.3 Overarching Management Condition

1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

1.4 Improvement Programme

1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency at the reporting address within 14 days of the completion of each such requirement.

Table 1.4.1: Improvement programme requirements

Reference	Requirement	Date
1.4.1.1	Submissions of a Construction Quality Assurance Plan detailing the construction and surfacing for containment of a quarantine area, located as shown on Drawing N° ESID 2 entitled "Environmental Site Setting" (Llanddulas Landfill Phases 2 & 3a) for Agency approval. The quarantine area shall be constructed in accordance with the approved CQA Plan within three months of Agency approval being received.	Within three months of permit issue
1.4.1.2	The operator shall carry out an investigation into the appropriateness of the groundwater monitoring system at the site. This shall include the following: • Assessment of the connectivity of the boreholes with the wider limestone aquifer • Assessment of the hydraulic conductivity of the limestone in the vicinity of each borehole • Assessment of the suitability of the up-gradient boreholes for use as determining background groundwater quality. A report detailing the findings and recommendations of the investigation shall be communicated to the Environment Agency. This shall include and identify all the additional /replacement groundwater monitoring boreholes required as a result of the investigation.	Within four months of permit issue. Within one month after completion of investigation.
1.4.1.3	The operator shall install all additional /replacement groundwater monitoring boreholes that have been identified as a result of the requirements of improvement condition reference 1.4.1.2. Decommissioned monitoring boreholes resulting from improvement condition reference 1.4.1.2 shall be sealed to prevent potential pathways for migration of contaminants in agreement in writing with the Environment Agency.	Within twelve months of permit issue
1.4.1.4	A Landfill Gas Emergency Action Plan covering Phases 1,2, 3 & 3a, in accordance with the Environment Agency guidance, shall be submitted to the Environment Agency. The action plan shall identify the actions that shall be taken and the timescales to complete them to ensure that the following emissions from the Landfill are controlled:	Within two months of permit issue

Table 1.4.1: Improvement programme requirements

Reference	Requirement	Date
	• Sub-surface emission of landfill gas to the surrounding land; • Fugitive emissions of landfill gas from the landfill to the surrounding air; • Emission of combustion products from the landfill gas flare and utilisation scheme; The action plan shall also consider the measures that shall be put in place to deal with: • Ingress of oxygen into the landfill; and • Inadequate disposal capacity for the gas generated at the site. The notification requirements of condition 1.4.1 shall be deemed to have been complied with on submission of the Landfill Gas Emergency Action Plan covering Phases 1,2, 3 & 3a.	
1.4.1.5	The operator shall install a minimum of 3 landfill gas monitoring boreholes within each of the designated phases 1A, 1B, 1C, 2, 3, and 3A. These boreholes shall be installed to a depth to ensure that the concentration and pressure of landfill gas within the waste body can be determined whilst not affecting the integrity of the containment within those phases. Each borehole shall be located in a position as far as practically possible from the installed landfill gas collection wells to minimise the effect from those wells.	Phases 1A and 1B, 1C and 2 within 6 months of issue of the permit. For 3 and 3a within 6 months of landfilling ending
1.4.1.6	The operator shall carry out an air quality monitoring survey at the site and provide a report containing the results obtained and the interpretation to the Agency. The survey shall determine the ground level concentrations of NO_2 at the sensitive receptors identified within table LFGRA 1 of the Landfill Gas Risk Assessment in application No BU2853 dated February 2003. The survey shall be carried out at a time and at the locations, which are likely to result in a conservative worst case scenario. The interpretation shall consider the results in comparison to the relevant air quality standards both in the short and the long term. The details of the method for carrying out the survey shall be agreed in writing with the Agency prior to the commencement of the survey.	Within 1 year of the permit being issued
1.4.1.7	The operator shall produce a report, and submit it to the Agency, assessing the effectiveness of the mitigation measures (including dust, litter and noise) for avoiding adverse effects on the species of bats and their habitats that have been identified in the Llanddulus and Gwrych Castle Wood SSSI shown on Drawing ESID 3 (Llanddulus Landfill Phase 2 & 3a). Ensure that consideration is given to the two winter hibernation roosts located at 01/1 and 02/1 on drawing entitled "Figure one Feb 1996".	Prior to waste disposal in Phase 3A
1.4.1.8	The operator shall number the 39 gas wells in Phase 2 and provide a drawing, drawn to scale, to the Agency showing the location of each gas well and its unique number.	Within 2 months of issue of the permit.

1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 it shall send written notification of such failure to the Agency within 14 days of such date.

1.5 Minor Operational Changes

1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.

1.5.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.

1.5.3 When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.

1.5.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application shall be deemed to be amended.

1.6 Pre-Operational Conditions and Regulatory Standards

1.6.1 No disposal of waste shall take place in any area of the Permitted Installation where waste deposit commences after the issue of this Permit unless:

1.6.1.1 prior to the commencement of construction of that area the operator has submitted to the Agency in writing the detailed design and the Construction Quality Assurance (CQA) programme for the pre-operational engineering of the barriers, liners and leachate collection layer for that area and that it is confirmed in writing by the Agency that these are in conformance with the relevant specifications set out in sections 2 of Parts B of the Application and table 1.6.1.1 below

TABLE 1.6.1.1	
Rock fill of Carboniferous Limestone	
Maximum Gradient of Slope	1 in 2.5
Angle of Shearing resistance	38° (assuming no cohesion value)
Clay (artificially established geological barrier)	
Minimum Thickness	1.0 m
Maximum Hydraulic Conductivity	1×10^{-10} m.s^{-1}
Maximum Hydraulic Conductivity @ 5% lateral strain	1×10^{-10} m.s^{-1}
Undrained Shear Strength	50 kN.m^{-2}
Drained shear strength parameters	c' = 5 kN.m^{-2} & Φ' = 24°
Minimum K_d for Copper[1]	40 l.kg-1
Minimum K_d for Lead[1]	20 l.kg-1
Minimum K_d for Mercury[1]	450 l.kg-1
Minimum K_d for Zinc[1]	1 l.kg-1
Minimum K_d for Mecoprop[1]	1.5 l.kg-1
HDPE Geomembrane	
Minimum Thickness	2mm
Accredited Third Party Installers	Required
Post Installation Geophysical Survey	Required
Leachate Collection Layer	
Minimum Basal Gradient	1 in 50
Minimum Thickness	300 mm
Minimum Hydraulic Conductivity	1×10^{-3} m.s^{-1}
Minimum Demonstrated Strength	To ensure that the form and structure of the material is maintained under a loading equivalent to the maximum encountered at the site (waste column of 65m)
Pipework Spacing	25 m
Pipework Diameter	200 mm
Pipework Falls	1 in 50
Pipework Strength	Max 5% Deflection under a loading equivalent to the maxiumum encountered at the site (waste column of 65m)

Note 1: K_d is the distribution coefficient for the specified contaminant.

and

1.6.1.2 the operator has notified the Agency in writing of any changes in the detailed design and the CQA programme that are made during the construction, within 5 working days of those changes having been made and that the Agency has agreed in writing that these are in conformance with the relevant specifications set out in Parts B of the Application and

1.6.1.3 the pre-operational engineering and infrastructure of the barriers and liners and the leachate collection layer have been completed and validated in accordance with the documented CQA procedures and

1.6.1.4 the operator has submitted the validation report in writing to the Agency and

1.6.1.5 the Agency has inspected the area to ensure that it complies with the relevant conditions of the landfill permit, and has confirmed in writing that it has no objection to that area becoming operational and

1.6.1.6 a geophysical investigation has been carried out across the full extent of the base of the cell(s) of Phase 3A to identify the presence or absence of solution features within the in-situ Carboniferous Limestone

1.7 On going engineering of relevant structures

1.7.1 The operator will be considered not to have complied with the relevant improvement programme and conditions unless:

1.7.1.1 Prior to the commencement of construction of that structure the operator has submitted to the Agency in writing the detailed design and the Construction Quality Assurance (CQA) programme for the relevant structure, and that it is confirmed in writing by the Agency that these are in conformance with the relevant specifications set out.

1.7.1.2 the operator has notified the Agency in writing of any changes in the detailed design and the CQA programme that are made during the construction, and within 5 working days of those changes having been made and that the Agency has agreed in writing that these are in conformance with the relevant specifications set out in the relevant condition and

1.7.1.3 the construction of the relevant structure has been completed and validated in accordance with the documented CQA procedures and

1.7.1.4 the operator has submitted the validation report in writing to the Agency and

1.7.1.5 the Agency has inspected the structure to ensure that it complies with the relevant conditions of the landfill permit, and has confirmed in writing that it has no objection to the structure becoming operational.

1.8 Regulatory Standards for the Construction of Caps, Waste Slopes, Surface water drainage layers, and Cover soils.

Regulatory required specified standards for the Construction of Caps and Waste Slopes

1.8.1 All Caps and Waste Slopes shall be constructed in accordance with sections 2 of Parts B of the Application and the following Regulatory Specified Standards in Table 1.8.1 below

Table 1.8.1	
Regulatory Standards for Cap Construction	
Sealing layer (VLDPE Geomembrane)	
Minimum thickness	1mm
Minimum tensile strain	25% @ yield
Minimum interface friction strength parameters	c`= 0 kPa $\Phi = 32^{\circ}$
Geosynthetic Clay Layer	
Maximum Index Flux	$0.0021 m^3 . m^{-2} . year^{-1}$
Minimum tensile strain	2.5%
Minimum interface friction strength parameters	c`= 0 kPa $\Phi = 16^{\circ}$

Minimum internal shear strength parameters	c`= 0 kPa $\Phi = 16^{\circ}$
Regulatory Standards for Waste Slopes	
Maximum Slope Height (for cap construction)	10m
Maximum Slope Gradient for GCL cap	11°
Maximum Slope Gradient for VLDPE geomembrane cap	24°

1.8.2 The operator shall provide immediately below the cap on the northern waste slope of Phase 3A a leachate collection layer that is keyed into the basal collection system. This shall be constructed to a specification to ensure that no leachate head is permitted to build up below the cap taking into account the likely differential settlement that will occur in this slope.

1.8.3 Within twelve months of permit issue, the operator shall install a low permeability cap on Phases 1A and 1B in accordance with the regulatory specification in table 1.8.1.

Regulatory Standards for Surface Water drainage layers

1.8.4 Surface Water drainage layers shall be constructed in accordance with the Application and the following Regulatory specification in Table 1.8.4 below

Table 1.8.4	
Minimum thickness	300 mm
Minimum Hydraulic Conductivity	1 x 10^{-3} m/s^{-1}

Regulatory Standards for Cover soils.

1.8.5 Cover soils shall be used in accordance with the Application and the following regulatory specification in Table 1.8.5 below

Table 1.8.5	
Total thickness (including drainage layer)	1m

1.9 Off-site Conditions

1.9.1 Off site conditions are included in the other conditions of this permit.

2 Operating conditions

2.1 Landfilling Controls

2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1 : Management and control

Description	Parts	Date Received
Application.	The response to questions 1.2, 2.1, 2.2, 2.3, 2.4 and 2.5 in part B of the Application Forms for Llanddulas Landfill Phases 2 & 3a (Reference BU2853). The technical details and standards contained within these documents shall apply to Phases 2 & 3a, unless standards are prescribed in other conditions of this permit.	27 February 2003
	The response to questions 1.2, 2.1, 2.2, 2.3, 2.4 and 2.5 in part B of the Application Forms for Llanddulas Landfill Phases 1 & 3 (Reference BU0800). The technical details and standards contained within these documents shall apply to Phases 1 & 3, unless standards are prescribed in other conditions of this permit.	9 June 2003
	Letter reference: 4D-197-126/187: Revised list of non-hazardous wastes to be accepted at Llanddulas Landfill, excluding the acceptance of stabilised hazardous waste.	9 December 2003
	Letter reference: 4D-197-126: Conformation that Application references BU0800 and BU2853 have been conjoined	30 January 2004

2.1.2 Wastes shall only be accepted for disposal on the site if;

2.1.2.1 they are

2.1.2.2 Non hazardous waste or inert waste
and

2.1.2.3 they do not include any of the following:

a) liquid wastes (including waste waters but excluding sludge)
b) waste which in the conditions of landfill is explosive, corrosive, oxidising, highly flammable or flammable
c) hospital, and other, clinical infectious wastes from medical or veterinary establishments
d) chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown

e) whole used tyres (other than tyres used as engineering materials, bicycle tyres and tyres with an outside diameter of more than 1400mm)
f) shredded used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm) with effect from 16 July 2006
g) any waste which does not fulfil the relevant waste acceptance criteria
h) waste which has been diluted or mixed solely to meet the relevant waste acceptance criteria
i) with effect from a date specified in Regulations and if no date so specified no later than 31st March 2007 wastes which have not been treated, except for:
   - inert wastes for which treatment is not technically feasible; or
   - it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment.

And

2.1.2.4 they are in accordance with the list of waste types and quantities, as described in the applications and additional information, dated 9 December 2003, with the exclusion of any "xx.xx.99" codes unless otherwise agreed in writing with the Agency and suitable Waste Acceptance Ratios shall be applied to those wastes code types where appropriate.

2.1.2.5 The operator of the landfill shall visually inspect the waste at the entrance to the landfill and at the point of the deposit and shall satisfy himself that it conforms to the description provided in the documentation submitted by the holder.

2.1.2.6 The operator shall ensure that if representative samples are taken for analysis, the operator shall retain the samples and results of any analysis for at least one month.

2.1.2.7 The operator on accepting each delivery of waste shall provide a written receipt to the person delivering it.

2.1.2.8 The operator shall ensure that the landfill is secured to prevent free access to the site and the gates of the landfill must be locked outside operating hours.

2.1.3 The total quantity of waste that shall be deposited in the landfill shall not exceed 5,200,000 tonnes.

2.1.4 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in Table 2.1.4 below.

Table 2.1.4 Annual Waste Input Limits

Category	Limit Tonnes/ Year	Comments
Non Hazardous Waste and Inert Waste	600,000	Combined tonnage of non hazardous and inert

2.1.5 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, origin, date of delivery, the identity of the producer (or in the case of municipal waste, the collector) of any waste that is received for disposal or recovery at the Permitted Installation and provide a waste return as required by the reporting conditions in this permit.

2.1.6 The Operator shall record the quantity of waste deposited within the landfill.

2.1.7 The Landfill Gas Emergency Action Plan covering Phases 1,2, 3 & 3a, required under improvement condition 1.4.1.4, shall be implemented from the date of approval in writing by the Agency and throughout the operational life

of the site.

2.1.8 Waste shall not be accepted for disposal in Phase 3A unless the Agency has confirmed in writing that it is satisfied with the report required by improvement condition 1.4.1.7 and any mitigation measures identified in the report shall be implemented throughout the operational life of the site.

2.1.9 Whenever the site is receiving or despatching wastes, or engineering works are being carried out, measures shall be provided, operated and maintained in order to prevent the deposit or tracking of mud or debris arising from the site onto public areas outside the site, which shall include public highways and areas of public access outside the site.

2.2 Emissions

2.2.1 Emissions to Air, (excluding Odour, Noise or Vibration) from Specified Points

2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.

2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the source(s) specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A1 Flare stack for each of the two gas flares	Landfill gas flares	As shown as Point A1 on Drawing Nº ESID 13B entitled " Monitoring Points"
A2 Extraction stack for each of the three gas engines	Utilisation Scheme	As shown as Point A2 on Drawing Nº ESID 13B entitled " Monitoring Points"

2.2.1.3 The limits for emissions to air for the parameters and emission points set out in Table 2.2.2 shall not be exceeded.

Table 2..2..2 : Emission limits to air and monitoring

Emission point reference	Parameter	Limit	Monitoring frequency	Monitoring method
A1	Nitrogen Oxides (NO_x)	150 $mg.m^{-3}$	Annually	Chemiluminescence
A1	Carbon Monoxide (CO)	50 $mg.m^{-3}$	Annually	Non-Dispersive Infrared analysis
A1	Total Volatile Organic Compounds (VOC's)	10 $mg.m^{-3}$	Annually	Extractive sampling and FID analysis
A1	Non Methane Volatile Organic Compounds (NMVOC's)	5 $mg.m^{-3}$	Annually	Extractive sampling onto sorbent, extraction by CS_2, analysis by GC with

				appropriate detector
A2	Nitrogen Oxides (NO_x)	650 $mg.m^{-3}$	Continuous	Extractive sampling and Chemiluminesence
A2	Carbon Monoxide (CO)	1500 $mg.m^{-3}$	Continuous	Extractive sampling and non-dispersive Infra red analysis
A2	Total Volatile Organic Compounds (VOC's)	1750 $mg.m^{-3}$	Annually	Extractive sampling and FID analysis
A2	Non Methane Volatile Organic Compounds (NMVOC's)	150 $mg.m^{-3}$	Annually	Extractive sampling onto sorbent, extraction by CS2, analysis by GC with appropriate detector

2.2.1.4 Landfill gas generated within the permitted installation shall be managed using the techniques and in the manner described in "Application Forms" ref BU 2853 and in "A: Environmental Setting & Installation Design (ESID) Reports and Drawings" refs BU 0800 of the Application or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this permit. The operator shall ensure that at all times there is adequate gas extraction capacity, capability and extent to enable the collection, extraction and disposal / utilisation of the landfill gas particularly when it is generated at its maximum rate in the installation.

2.2.2 Emissions to Surface water from specified points

2.2.2.1 This Part 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

Emissions to Surface Water

Conditions 2.2.2.3 to 2.2.2.6 shall not apply to emissions to sewer.

2.2.2.3 Emissions to water from the emission point(s) specified in Table 2.2.4 shall only arise from the source(s) specified in that Table

Table 2.2.2.3: Emission point to surface water

Emission Point Reference or description	Source	Receiving Water
Monitoring Point, (W1) on Drawing Nº ESID 13B entitled "Monitoring Points". National Grid Reference SH 8993 7824	Site drainage water from the surface water management system from Phases 1 and 3	Lagoons In lower quarry from which discharge is made to the Irish Sea and, by infiltration, to groundwater

2.2.2.4 The limits for the emissions to water for the parameter(s) and emission point(s) set out in Table 2.2.2.4 shall not be exceeded.

Table 2.2.2.4 : Emission limits to surface water and monitoring

Emission point reference	Parameter	Limit (including Reference Period)	Monitoring frequency
W1	Volume	No limit set	Monthly
W1	Biochemical oxygen demand	15 mg/l	Monthly
W1	Ammoniacal nitrogen (Expressed as N)	5 mg/l	Monthly
W1	Suspended solids	50 mg/l	Monthly
W1	pH	> 6, < 9	Monthly
W1	Oil or grease	Any visible sign	Monthly

2.2.2.5 Where a substance is specified in Table 2.2.2.4 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration in the receiving water.

2.2.2.6 An appropriately labelled sample point shall be provided and maintained at the relevant National Grid Reference given in Table 2.2.2.3 and the location shown on Drawing N° ESID13 B entitled "Monitoring Points" so that representative samples of the Discharge may be obtained. The Operator shall ensure that all constituents of the Discharge pass through the said sampling point at all times and in any legal proceedings it shall, for the purposes of Section 10 of the Rivers (Prevention of Pollution) Act 1961, be presumed, until the contrary is shown that any sample of the Discharge taken at the said sampling point is a sample of what was discharging into controlled waters.

2.2.2.7 At the request of the Agency, the Operator shall install, operate and maintain a means of flow measuring to a specification at location W1, shown on Drawing No. ESID13B entitled "Monitoring Points", required by the Agency, to enable the daily volume and instantaneous flow of the surface water discharge to be recorded. The Operator shall calibrate, operate and maintain the flow monitoring and recording system to a standard agreed or specified by the Agency. The flow and maintenance records shall be provided to the Agency as and when requested.

Emissions to sewer

2.2.2.8 Emissions to sewer from the specified emission points in Table 2.2.2.8 shall only arise from the emission points specified in that Table.

Table 2.2.2.8 Emission points to sewer

Emission point reference or description	Source	Sewer
S1 At point of entry to sewer on Drawing Nº ESID 13B entitled "Monitoring Points".	Discharge from leachate effluent treatment plant	Welsh Water plc

2.2.2.9 The limits for the emissions to sewer for the parameter(s) and emission point(s) set out in Table 2.2.2.9 shall not be exceeded.

2.2.2.10 The Operator shall carry out monitoring at the specified location point(s) as listed in Table 2.2.2.9, shown on Drawing N° ESID 13B entitled "Monitoring Locations" for the parameters listed in Table 2.2.2.9, and at least at the frequencies specified in section 3.1.1 of the Part B application form reference BU2853.

Table 2.2.2.9: Emission limits and monitoring frequency to sewer

Emission point reference	Substance	Limit
S1	Suspended solids	600mg/l
	COD	1500mg/l
	Ammoniacal nitrogen	50mg/l
	Copper	2mg/l
	Zinc	2mg/l
	Lead	2mg/l
	Chromium	2mg/l
	Nickel	2mg/l

2.2.3 Emissions to groundwater

2.2.3.1 Within 4 years of Permit issue, no emission from Phases 1A and 1B shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746).

2.2.3.2 No emission arising from Phases 1C, 2, 3 and 3A shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I.1998 No.2746).

2.2.3.3 Within 4 years of Permit issue, no emission from Phases 1A and 1B shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I.1998 No.2746)

2.2.3.4 No emission from Phases 1C, 2, 3 and 3A shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I.1998 No.2746)

2.2.3.5 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.3.6 The Operator shall carry out monitoring at those specified location points as listed in Table 2.2.3.5 which are shown on Drawings N° ESID 11 Phase 1 & 3, ESID 11 Phase 2 & 3A both entitled "Local hydrogeology & Hydrology" and ESID 13B Monitoring locations for the parameters listed in Table 2.2.3.5, and at least at the frequencies specified in that Table.

2.2.3.7 The trigger levels for emissions into groundwater for those parameter(s) as set out in Table 2.2.3.5 shall not be exceeded at those monitoring points as specified in Table 2.2.3.5 and as reference located on Drawings N° ESID 11 Phase 1 & 3, ESID 11 Phase 2 & 3A both entitled "Local hydrogeology & Hydrology" and ESID 13B Monitoring locations.

Table 2.2.3.5 Trigger levels for emissions into groundwater and monitoring

Parameters to be sampled and analysed on a monthly basis	Monitoring Point GW3	BH4	BH7	BH23	BH26	BH36	
Ammonical-N	950 mg.l^{-1}	1.0 mg.l^{-1}	1.0 mg.l^{-1}	1.0 mg.l^{-1}	1.0 mg.l^{-1}	1.0 mg.l^{-1}	
Chloride	2200 mg.l^{-1}	250 mg.l^{-1}	250 mg.l^{-1}	250 mg.l^{-1}	250 mg.l^{-1}	250 mg.l^{-1}	
Mercury	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	
Mecoprop	0.04 µg.l^{-1}	0.04 µg.l^{-1}	0.04 µg.l^{-1}	0.04 µg.l^{-1}	0.04 µg.l^{-1}	0.04 µg.l^{-1}	
Parameters to be sampled and analysed on a quarterly basis	Monitoring Point GW3	BH4	BH7	BH23	BH26	BH36	
Phenols	0.5 µg.l^{-1}	0.5 µg.l^{-1}	0.5 µg.l^{-1}	0.5 µg.l^{-1}	0.5 µg.l^{-1}	0.5 µg.l^{-1}	
Potassium	650 mg.l^{-1}	12 mg.l^{-1}	12 mg.l^{-1}	12 mg.l^{-1}	12 mg.l^{-1}	12 mg.l^{-1}	
Tributyl Tin	0.001µg.l^{-1}	0.001µg.l^{-1}	0.001µg.l^{-1}	0.001 µg.l^{-1}	0.001 µg.l^{-1}	0.001 µg.l^{-1}	
Trifuralin	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	0.01 µg.l^{-1}	
Parameters to be sampled and analysed on a monthly basis	Monitoring Point BH34	BH35					
Ammonical-N	1.0 mg.l^{-1}	1.0 mg.l^{-1}					
Chloride	250 mg.l^{-1}	250 mg.l^{-1}					
Mercury	0.01 µg.l^{-1}	0.01 µg.l^{-1}					
Mecoprop	0.04 µg.l^{-1}	0.04 µg.l^{-1}					
Parameters to be sampled and analysed on a quarterly basis	Monitoring Point BH34	BH35					
Phenols	0.5 µg.l^{-1}	0.5 µg.l^{-1}					
Potassium	12 mg.l^{-1}	12 mg.l^{-1}					
Tributyl Tin	0.001µg.l^{-1}	0.001µg.l^{-1}					
Trifuralin	0.01 µg.l^{-1}	0.01 µg.l^{-1}					

2.2.3.8 Subject to the terms of this condition, the activities of disposal, or tipping for the purpose of disposal, of waste, that are authorised by this landfill permit shall cease on 6 August 2007, unless by that date the operator has submitted to the Agency a written review of the Hydrogeological Risk Assessment submitted as part of the original Application for the permit.

2.2.3.9 The Risk Assessment review shall include a review of the responses in Sections 1.2.1 to 1.2.9 of Parts B of both the original applications BU 2853 and BU 0800 for this Permit. The written review shall show that at the specified date, the level of risk to groundwater meets the terms of the Groundwater Regulations 1998.

2.2.3.10 In the event that the continuation of activities is authorised in accordance with this condition beyond 4 years following the date of granting of this Permit, they shall cease on every fourth anniversary thereafter, unless, by each of those dates, the operator has submitted to the Agency a further written review of the Hydrogeological Risk Assessment which shows that, at the specified dates, the level of risk to groundwater meets the terms of the Groundwater Regulations 1988.

2.2.3.11 The reviews submitted to the Agency shall include the results of any investigations and reviews carried out, and, in particular, reviews of the following aspects of the Hydrogeological Risk Assessment :

a) Recommendations of the essential technical precautions which must be taken, paying particular attention to the nature and concentration of the substances present in the matter being disposed of or tipped, the characteristics of the receiving environment and the proximity of the water catchment areas, in particular those for drinking, thermal and mineral water.

b) Recommendations of the technical precautions necessary:

i In the case where groundwater is considered to be permanently unsuitable for other uses, to ensure that no substance in list I can reach other aquatic ecosystems or harm other ecosystems, to ensure that the presence of any list I substance once discharged into the groundwater will not impede exploitation of ground resources and to prevent pollution of groundwater by list II substances; and

ii in the case where groundwater is not considered to be permanently unsuitable for other uses, to prevent any discharges into groundwater of substances in list I and to prevent any pollution of groundwater by substances in list II.

2.2.4 Fugitive emissions of substances to air

2.2.4.1 The Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

- storage areas
- buildings
- pipes, valves and other transfer systems
- open surfaces;

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.4.2 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of litter from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant

2.2.4.3 When carrying out daily monitoring for dust, litter and noise assessments the operator shall ensure that all precautions are fully implemented to ensure that dust, noise and litter are not adversely affecting the Mynydd Marian SSSI, Llanddulas Limestone and Gwrych Castle Wood SSSI and the Lesser horseshoe bats present both on Llanddulas Limestone and Gwrych Castle Wood SSSI and south of the landfill at two winter hibernation roosts located at 01/1 and 02/1 on drawing entitled "Figure one Feb 1996".

2.2.4.4 No condition applies.

Aerial fugitive emissions of landfill gas

2.2.4.5 The Operator shall carry out monitoring of the parameters shown and at least at the frequencies specified in Table 2.2.4.5.2 at the general monitoring sources and locations in Tables 2.2.4.5.1.

Table 2.2.4.5.1 Fugitive emissions to air

Emission point reference or description	Source	Location of emission area/point
A full sweep of the site boundary at any points on the immediate site boundary and boundary of the gas plant.	Phase 2	Site Boundary adjacent to phase
	Phase 3	Site Boundary adjacent to phase
	Phase 3 Gas Plant	Site Boundary adjacent to Gas Plant
	Phase 1A	Site Boundary adjacent to phase
	Phase 1B	Site Boundary adjacent to phase
	Phase 1C	Site Boundary adjacent to phase
A full sweep of the caps` surfaces. At any points above the surface of the caps.	Phase 1A	Cap of Phase 1A
	Phase 1B	Cap of Phase 1B
	Phase 1C	Cap of Phase 1C
	Phase 2	Cap of Phase 2
In the immediate vicinity of the gas and leachate, well heads and monitoring points.	Phase 1A	Gas Well heads on phase 1A
	Phase 1B	Gas Well heads on phase 1B
	Phase 1C	Gas and leachate Well heads on phase 1C
	Phase 2	Gas and leachate Well heads on phase 2

Table 2.2.4.5.2 Fugitive emission limits to air and monitoring

Emission point reference	Parameter	Limit	Monitoring frequency	Monitoring method
A full sweep of the site boundary and at any points on the immediate site and boundary of the gas and leachate treatment plant.	Flammable Gases	50 ppm	Monthly	FID
A full sweep of the caps` surfaces and at any points above the surface of the caps.	Flammable Gases	100 ppm	Monthly	FID
In the immediate vicinity of the gas and leachate, well heads and monitoring points	Flammable Gases	1,000 ppm	Monthly	FID

Effectiveness of Gas Management System

2.2.4.6 The Operator shall carry out monitoring of the parameters listed in Table 2.2.4.6.2 and at least at the frequencies specified in Table 2.2.4.6.2 at the specified monitoring sources and locations in Table 2.2.4.6.1 shall be shown on Drawing No ESID 8 Phase 1&3 and Drawing No ESID 8 Phase 2&3A both entitled "Landfill Gas Management".

Table 2.2.4.6.1 Effectiveness of Gas Management System		
Emission point reference or description	Source	Gas Collection Well (GCW). Gas Monitoring Well (GMW)
1-1A to 28 GCW	Phase 1	Gas Collection Wells 1, 1A, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28
1 to 39 GCW	Phase 2	Gas Collection Wells (a total of 39 wells are in place and these shall be numbered on the above Drawings as part of improvement condition number 1.4.1.8)
Gas Main	Phases 1 and 2	The main gas taking landfill gas from Phases 1 and 2 to the landfill gas management facility.

Table 2.2.4.6.2 Effectiveness of Gas Management System				
Emission point reference	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring method**
Gas Collection Wells	Oxygen	No greater than 5% volume	Fortnightly	Portable Infra-Red Analyser
Gas Line 1-3A	Trace Gas Composition	A significant variation from the composition and limits assessed within the landfill gas risk assessment	Annually	GC/Mass Spec
			Annually	Extractive Sampling and GC-MS

2.2.5 Fugitive emissions of substances to water and sewer

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:

- all structures under or over ground
- surfacing
- bunding
- storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

2.2.6 Odour

2.2.6.1 The Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials
- controlling processing parameters to minimise the generation of odour
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance

- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.6.2 All emissions to air from the installation shall be free from offensive odour as perceived by an Authorised Officer of the Agency outside of the installation boundary except that the Operator shall not be taken to have breached this condition if the Operator has ensured that all appropriate measures are taken or where that is not practicable, to reduce, such odorous emissions.

2.2.7 Emissions to Land

2.2.7.1 Part 2.2.7 of this Permit shall not apply to emissions to groundwater.

2.2.7.2 Emissions into or onto land from the emission point(s) specified in Table 2.2.7.2 shall only arise from the source(s) and shall be emitted only to the soakaways specified in that Table.

Table 2.2.7.2 Emission points into land

Emission point reference/description	Source	Soakaways shown on Drawing Nº ESID 13B entitled "Monitoring Points"
Monitoring Point, (W2) on Drawing Nº ESID 13B entitled "Monitoring Points". National Grid Reference SH 9037 7730	Site drainage from Phase 2/3A	Beyond southern boundary of installation
Monitoring Point, (W3) on Drawing Nº ESID 13B entitled "Monitoring Points". National Grid Reference SH 9022 7757	Site drainage from Phase 2/3A	North-east side of Phase 2
Monitoring Point, (W4) on Drawing Nº ESID 13B. entitled "Monitoring Points". National Grid Reference SH 9050 7762	Site drainage from Phase 2/3A	North-west side of Phase 3A

2.2.7.3 Subject to the other conditions of this permit there shall be no other emissions to land from the Permitted Installation.

2.2.7.4 Prior to using soakaway discharge points W2, W3 and W4, indicated on drawing ESID 13B entitled 'Monitoring Locations' the operator shall submit to the Agency a monitoring programme detailing:

a. The determinands to be monitoring at soakaway discharge monitoring points W2, W3 and W4

b. The frequency of monitoring the determinands referenced in condition 2.2.7.4(a)

c. Trigger levels for each determinand specified in condition 2.2.7.4(a), which will not be exceeded.

2.2.7.5 The soakaways W2, W3 and W4 shall only be used when the operator has received written Agency approval for the monitoring programme specified in condition 2.2.7.4.

2.2.7.6 The Operator shall notify the Agency, as soon as reasonably practicable, of any information concerning the state of the Site which affects or updates that provided to the Agency as part of the Site Report submitted with the application for this Permit.

2.2.7.7 The Operator shall carry out leachate gauging to determine the head height of leachate from those compliance points described in Table 2.2.7.7 and as located on the following drawings:

Drawing N° ESID 7 entitled "Phase 3A Leachate Management " Phase 2 and 3A

Drawing N° ESID 7 entitled "Phase 3 Leachate Management " Phase 1 and 3

Drawing N° ESID 6B entitled "Installation Capping System Details" Phase 1 and 3

Drawing N° ESID 6B entitled "Installation Capping System Details "Phase 2 and 3A

at least at the frequencies specified in Table 2.2.7.7.

2.2.7.8 The trigger levels for the head height of leachate set out in Table 2.2.7.7 shall not be exceeded at those monitoring points specified in Table 2.2.7.7.

Table 2.2.7.7 Trigger head levels for leachate gauging.

Monitoring location. Cell and or Phase N°	Leachate level compliance points[1]	Parameter. Leachate Head. Control level in meters	Parameter. Leachate Head. Trigger level / Compliance level in meters	Frequency of monitoring
1C	LW 1C	1.0	2.0	Weekly
2A	LCP 2A	1.0	2.0	Weekly
2B	LCP 2B	1.0	2.0	Weekly
2C	LCP 2C 1	1.0	2.0	Weekly
3	LMP 3 / 1	1.0	2.0	Weekly
	LCP	1.0	2.0	Weekly

Note 1: LCP Leachate collection point, LMP Leachate monitoring point.

2.2.7.9 The Operator shall carry out sampling and chemical analysis of leachate for the parameters listed in Table 2.2.7.9 at the specified monitoring points listed in Table 2.2.7.9, referenced in Condition 2.2.7.7 and at least at the frequencies specified in Table 2.2.7.9.

Table 2.2.7.9 Leachate Concentration Control Levels							
		Control concentration in mgl^{-1}					
Cell or Phase N°	Leachate compliance sampling points[1]	List 1 Substances		List 11 Substances			Frequency of monitoring
		Mecoprop	Mercury	Lead	Ammoniacal Nitrogen	Chloride	
1C	LW1C	0.19	1.1	120	2680	8700	Quarterly
2A	LCP 2A	0.19	1.1	120	2680	8700	Quarterly
2B	LCP 2B	0.19	1.1	120	2680	8700	Quarterly
2C	LCP 2C	0.19	1.1	120	2680	8700	Quarterly
3	LMP 3 / 1	0.19	1.1	120	2680	8700	Quarterly
	LCP 3	0.19	1.1	120	2680	8700	Quarterly

Note 1:LCP Leachate collection point; LMP Leachate monitoring point.

2.2.7.10 Within four months from the date of permit issue, the operator shall provide continuous flow monitoring of the underground leachate disposal pipe as shown on Drawing N° ESID 6B entitled "Installation Capping System Details", (Llanddulus Landfill Phase 1 & 3) at the inlet and outlet to enable early leak detection. Any indications from discrepancies in the flow readings shall be investigated immediately. A note of the time of such discrepancies and the person involved in the investigation shall be written into the site log. The incident shall be promptly reported to the Environment Agency followed by a written notification. In the event of the leachate disposal pipe leaking then discharge of leachate into the pipe shall be suspended until repairs have been effected.

2.2.7.11 Within nine months of the date of permit issue, the operator shall install a minimum of one leachate collection well within the waste in Phases 1A/1B. The leachate collection wells shall be designed to ensure that leachate levels within these designated Phases can be reduced whilst not affecting the integrity of the "containment" within those Phases.

2.2.7.12 Within nine months of the permit being issued the operator shall install leachate monitoring wells such that there is a minimum of two leachate monitoring wells within Phases 1A/1B, and a minimum of two leachate monitoring wells for each of the Phases 1C, 2 and 3. The leachate monitoring wells shall be designed to ensure that leachate levels can be monitored within the waste whilst not affecting the integrity of the containment within those phases.

2.2.7.13 The operator shall carry out environmental monitoring to the frequencies and methods described in Table 2.2.7.13 and from those locations as shown on Drawing N^0 ESID 8 Phases 1&3 and Drawing N^0 ESID 8 Phase 2 and 3A both entitled "Landfill Gas Management".

2.2.7.14 The emission limits for land for those parameter(s) as set out in Table 2.2.7.13 shall not be exceeded at those monitoring points as specified in Table 2.2.7.13, and referenced in Condition 2.2.7.13.

Table 2.2.7.13 Emission limits to land and monitoring

Emission point reference	Parameter	Limit (including reference period)	Monitoring frequency	Monitoring method
BH 01-30, BH40-42 and BH100-120	Methane	0.5 % vol	Weekly	Portable Infra Red Detector
	Carbon Dioxide	1.5 % vol	Weekly	Portable Infra Red Detector
	Oxygen	None	Weekly	
	Atmospheric Pressure	None	Weekly	
BH31-39, BH 47 – BH57, BH2003/1 & B2003/2	Methane	0.5 % vol	Monthly	Portable Infra Red Detector
	Carbon Dioxide	1.5 % vol	Monthly	Portable Infra Red Detector
	Oxygen	None	Monthly	
	Atmospheric Pressure	None	Monthly	

2.2.7.15 Prior to waste disposal in Phase 3A, the operator shall construct, install and commission two additional gas monitoring wells BH2003/1 and BH2003/2 suitable for purpose and in those locations as shown on Drawing N° ESID 8 entitled "Landfill Gas Management" application ref BU 2853.

2.3 Management (and Fit and Proper Person for Specified Waste Management Activities (SWMAs)).

2.3.1 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

Training

2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.

2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

Maintenance

2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.

2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:

2.3.6.1 a written or electronic maintenance programme; and

2.3.6.2 records of its maintenance.

Incidents and Complaints

2.3.7 The Operator shall maintain and implement written procedures for:

2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits and if such event occur;

2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and

2.3.7.3 ensuring that detailed records are made of all such actions and investigations.

2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.

Fit and Proper Person

2.3.9 Where Regulation 4 of the PPC Regulations applies to a relevant activity/associated activity carried on at the Permitted Installation, as authorised under condition 1.1.1,

2.3.9.1 any changes in technically competent management and the name of any incoming person together with evidence that such person has the required technical competence shall be submitted to the Agency in writing within 5 working days of the change in management. Technically competent management and technical competence shall be as prescribed under Section 74 of the Environmental Protection Act 1990.

2.3.9.2 In the event of the Operator and/or any relevant person being convicted of any relevant offence and which is in addition to any already notified to the Agency, then full details shall be provided to the Agency within 14 days of conviction, whether or not the conviction is subsequently appealed. Such details shall include , in respect of each relevant person (as defined in section 74(7) of the Environmental Protection Act 1990 or any subsequent amendments to that section), the nature of the offence, the place and date of conviction, any sentence, and any fine or other penalty imposed; and

2.3.9.3 In the event that the Operator and/or any relevant person lodges an appeal against any such conviction, the Operator shall notify the Agency of this within 14 days of the lodging. The Operator shall notify the Agency of the results of that appeal, within 14 days of the appeal being decided; and

2.3.9.4 The financial provision for meeting the obligations under this Permit set out in the Agreement made between the Operator and the Agency dated 6 February 2004 shall be maintained by the Operator throughout the subsistence of this Permit and the Operator shall produce evidence of such provision whenever required by the Agency.

2.3.9.5 The operator shall ensure that the charges it makes for the disposal of waste in the landfill covers all of the following

(a) the costs of setting up and operating the landfill;

(b) the costs of the financial provision required by condition 2.3.9.4,

and

(c) the estimated costs for the closure and after-care of the landfill site for a period of at least 60 years from its closure.

2.4 Efficient use of raw materials

2.4.1 The Operator shall

2.4.1.1 maintain the raw materials table or description submitted in response to Sections 2.4 of the applications ref BU 0800 and BU 2853 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;

2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and

2.4.1.3 ensure that incoming water use is directly measured and recorded.

2.5 Waste Storage and Handling

2.5.1 The Operator shall design, maintain and operate all facilities for the storage and handling of waste on site such that there are no releases to water or land during normal operation and that emissions to air and the risk of accidental release to water or land are minimised.

2.6 Waste recovery or disposal

2.6.1 Waste produced at the Permitted Installation shall be recycled or recovered unless technically and/or economically impossible.

2.6.2 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and where relevant removal date of any waste that is produced at the Permitted Installation.

2.7 Energy Efficiency

2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by the anniversary of the date of Permit issue each year, providing the information listed in Table S4.1 at Schedule 4.

2.7.2 The Operator shall maintain and update annually an energy management system which shall include, in particular, the monitoring of energy flows and targeting of areas for improving energy efficiency.

2.7.3 The Operator shall design, maintain and operate the Permitted Installation so as to secure energy efficiency, taking into account relevant guidance including the Agency's Energy Efficiency Horizontal Guidance Note H2 as from time to time amended. Energy efficiency shall be secured in particular by:

- ensuring that the appropriate operating and maintenance systems are in place;
- ensuring that all plant is adequately insulated to minimise energy loss or gain;
- ensuring that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss;
- employing appropriate basic controls, such as simple sensors and timers, to avoid unnecessary discharge of heated water or air;
- where building services constitute more than 5% of the total energy consumption of the installation, identifying and employing the appropriate energy efficiency techniques for building services, having regard in particular to the Building services part of the Agency's Energy Efficiency Horizontal Guidance Note H2; and
- maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.8 Accident prevention and control

2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in response to Section 2.4.4 of the Part B applications of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

2.9 Noise and Vibration

2.9.1 The Permitted Installation shall be designed, operated and maintained so as to avoid reasonable cause for annoyance from noise or vibration, in particular by:

- equipment maintenance e.g. fans, pumps, motors, conveyors and mobile plant;
- use and maintenance of appropriate attenuation e.g. silencers, barriers, enclosures;
- timing and location of noisy activities and vehicle movements;
- periodic checking of noise emissions, either qualitatively or quantitatively;

and

- maintenance of building fabric.

Provided always that the techniques used by the operator shall be no less effective than those described in the application, where relevant

2.10 On Site Monitoring

2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods referenced in Table 2.10.1 below unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.

Table 2.10.1

Tables	Trigger levels
2.2.2	Emissions limits to air and monitoring
2.2.2.4	Emissions limits to surface water and monitoring
2.2.2.9	Emission limits and monitoring frequency to sewer
2.2.3.5	The trigger levels for emissions into groundwater
2.2.4.5.2	Fugitive emission limits to air and monitoring
2.2.4.6.1/2	Effectiveness of Gas Management System
2.2.7.5	Trigger head levels for leachate gauging.
2.2.7.7	Trigger compliance levels for leachate quality and monitoring
2.2.7.12	Emission limits to land and monitoring

2.10.2 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/ or spot sampling, where such notification has been requested in writing by the Agency.

2.10.3 The Operator shall maintain records of all monitoring taken or carried out (this includes 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.

2.10.4 There shall be provided:

2.10.4.1 safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2 to this Permit, unless otherwise specified in that Schedule; and

2.10.4.2 safe means of access to other sampling/monitoring points when required by the Agency.

2.10.5 In accordance with conditions 2.2.2.4 and 2.2.2.9, the operator shall agree monitoring methods with the Agency and pending such agreement reliable methods shall be used.

2.11 Closure, Aftercare and Decommissioning

2.11.1 The Permitted Installation shall, subject to the conditions of this Permit, be managed and controlled as described in the documentation specified in Table 2.11.1, or as otherwise agreed in writing by the Agency.

Table 2.11.1: Closure, Aftercare and Decommissioning techniques		
Description	**Parts**	**Date Received**
Application	The response to question 2.5 in Part B of the application forms section 2.5 of ESID reports for applications BU2853 and BU0800	BU 2853 received 27 February 2003 BU 0800 received 9 June 2003

2.11.2 Where the above Table refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the later document(s) shall prevail to the extent of such conflict.

2.11.3 The Operator shall maintain and operate the Permitted activities so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by:

2.11.3.1 attention to the design of new plant or equipment;

2.11.3.2 the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out.; and

2.11.3.3 the maintenance of a site closure plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.

2.11.4 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.

2.11.5 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.

2.11.6 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

2.12 Multiple Operator installations

2.12.1 This is not a multi-Operator installation

2.13 Transfer to effluent treatment plant

2.13.1 Transfers to effluent treatment plant(s) shall occur only from the point(s) specified in Table 2.13.1 and transfers from those points shall arise only from the source(s) and shall be released only to the treatment plant(s) specified in that Table.

Table .2.13.1 Transfer point(s) to effluent treatment plant(s)		
Transfer point description / identifier	**Source**	**Effluent Treatment Plant**
E1 Leachate reception tank (See Drawing Nº ESID 13B entitled "Monitoring Points")	Leachate from landfill phases 1,2,3, and 3A	On site Leachate Treatment plant (LTP)

2.13.2 The limits for transfers to effluent treatment plant for the parameter(s) and transfer point(s) set out in Table 2.13.2 shall not be exceeded.

Table 2.13.2 Limits for transfers to effluent treatment plant(s)

Parameter	Transfer Point	Limit, incl reference period	Monitoring frequency	Monitoring Method
Flow	E1	150 m^3/day	Daily	Flow meter

3 Records

3.1.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-

3.1.1.1 be made available for inspection by the Agency at any reasonable time

3.1.1.2 be supplied to the Agency on demand and without charge

3.1.1.3 be legible

3.1.1.4 be made as soon as reasonably practicable

3.1.1.5 indicate any amendments which have been made and shall include the original record wherever possible; and

3.1.1.6 be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing.

4 Reporting

4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details notified in writing to the Operator by the Agency.

4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out under condition 2.10, as follows:

4.1.2.1 in respect of the parameters and emission points specified in Schedule 2.

4.1.2.2 for the reporting periods specified in Schedule 2 and using the forms specified in Table S3 to Schedule 3;

4.1.2.3 giving the information from such results and assessments as may be required by the forms specified in those Schedules and Tables; and

4.1.2.4 to the Agency within 28 days of the end of the reporting period.

4.1.3 No condition.

4.1.4 The Operator shall review fugitive emissions, having regard to the application of the most appropriate measures to prevent pollution, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to reduce them within 3 months of the end of such period.

4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.

4.1.6 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement

4.1.7 The Operator shall review all monitoring data required by this permit on an annual basis and shall submit to the Agency a summary report on the performance of the Permitted Installation over the previous year, within three months of the anniversary of the date of issue of the permit.

5 Notifications

5.1.1 The Operator shall notify the Agency **without delay** of:-

5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;

5.1.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant adverse environmental effect; unless the quantity emitted is so trivial that it would be incapable of causing significant adverse environmental effect;

5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution; and

5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution.

5.1.1.5 the refusal or rejection of incoming waste.

5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:

5.1.2.1 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and

5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter; and such information shall be in accordance with that Schedule.

5.1.3 The Operator shall give prior written notification to the Agency of the following events and in the specified timescales

5.1.3.1 As soon as practicable prior to the permanent cessation of the landfill disposal operations,

5.1.3.2 as soon as practicable prior to the cessation of the operation of the landfill disposal operations, for a period likely to exceed 1 month

5.1.3.3 at least 14 days prior to the resumption of the landfill disposal operations after a cessation

5.1.4 The Operator shall notify the Agency, as soon as practicable, of any information concerning the state of the site which affects or updates that provided to the Agency as part of the Site Report submitted with the application for this Permit.

5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:

5.1.5.1 where the Operator is a registered company:
- any change in the Operator's trading name, registered name or registered office address;
- any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary)
- any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up;

5.1.5.2 where the Operator is a corporate body other than a registered company:
- any change in the Operator's name or address;
- any steps taken with a view to the dissolution of the Operator.

5.1.5.3 In any other case:
- the death of any of the named Operators (where the Operator consists of more than one named individual);
- any change in the Operator's name(s) or address(es);
- 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;

5.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:

5.1.6.1 a decision by the Secretary of State not to re-certify that Agreement

5.1.6.2 a decision by either the Operator or the Secretary of State to terminate that Agreement

5.1.6.3 any subsequent decision by the Secretary of State to re-certify such an Agreement.

5.1.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:

5.1.7.1 a decision by the Operator to withdraw from or the Secretary of State to terminate that Agreement

5.1.7.2 a failure to comply with an annual target under that Agreement at the end of the trading compliance period

6 Interpretation

6.1.1 In this Permit, the following expressions shall have the following meanings:

"*Application*" means the applications for this Permit, BU2853 received 27 February 2003 together with the application received June 9 2003 and documents referenced within this permit.

"*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.

"Relevant structures" include boreholes, extraction wells, soakaways and other engineering works to be installed under the permit, excluding structures referred to in Section 1.6 of the permit.

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

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation onto the site.
- "BAT" means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "available techniques" means "those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator"; "best" means "in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned." . In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT. Note again, the possibility of excluding references to BAT.
- "Fugitive emission" means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.2, 2.2.2.3, 2.2.2.8 and 2.2.7.2 of this Permit"
- "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.
- "$L_{Aeq,T}$" means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T
- "$L_{A90,T}$" means the A weighted sound pressure level in dB exceeded for 90% of the time period, T
- "L_{AFmax}" means the maximum A weighted sound level measurement in dB measured with a fast time weighting
- "The Landfill Regulations" means the Landfill (England and Wales) Regulations SI 2002 No. 1559 and words and expressions defined in the Landfill Regulations shall have the same meanings when used in this Permit, save to the extent that they are specifically defined in this Permit.
- "Monitoring" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.
- "Permitted Installation" means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"PPC Regulations" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit

"Sewer" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"Staff" includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

"Year" means calendar year ending 31 December.

6.1.2 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.

6.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means;

6.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 k Pa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or

6.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273 K and at a pressure of 101.3 k Pa with no correction for water vapour content.

6.1.4 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

Schedule 1 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

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 PPC Regulations.

Part A

Permit Number	
Name of Operator	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance[s] emitted	**Media**	**Best estimate of the quantity or the rate of emission**	**time during which the emission took place**
	eg air		
	eg groundwater		

Measures taken, or intended to be taken, to stop the emission	

Part B

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 or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of *[OPERATOR NAME]*

Schedule 2 - Reporting of monitoring data

Parameters for which monitoring reports shall be made, in accordance with condition 4.1.2 of this Permit, are referenced below.

Table Reference	Parameter types and media	Reporting frequency
2.2.2	Emissions limits to air and monitoring	Annually
2.2.2.4	Emissions limits to surface water and monitoring	Quarterly
2.2.2.9	Emission limits and monitoring frequency to sewer	Quarterly
2.2.3.5	Trigger levels for emissions into groundwater and monitoring	Quarterly
2.2.4.5.2	Fugitive emission limits to air and monitoring	Annually
2.2.4.6.1/2	Effectiveness of Gas Management System gas collection wells	Quarterly
2.2.4.6.2.1	Effectiveness of Gas Management System trace gas composition	Annually
2.2.7.5	Trigger head levels for leachate gauging	Quarterly
2.2.7.7	Trigger compliance levels for leachate quality and monitoring	Quarterly
2.2.7.12.1	Emission limits to land and monitoring (External landfill gas monitoring)	Quarterly

Condition reference	Parameter	Reporting frequency
2.1.5	Waste summary	Annually

Specified reporting frequencies shall begin from the date of issue of this permit.

Schedule 3 - Forms to be used

Unless otherwise agreed in writing between Agency and the Operator, the following Agency forms are to be used for reports submitted to Agency.

Media/parameter	Form Number	Date of Form
Emissions limits to air and monitoring	None Provided. Reporting format to be agreed in writing with the Agency	
Fugitive emission limits to air and monitoring	None Provided. Reporting format to be agreed in writing with the Agency.	
Effectiveness of Gas Management System and monitoring.	None Provided. Reporting format to be agreed in writing with the Agency.	
Emissions limits to water and monitoring	None Provided. Reporting format to be agreed in writing with the Agency.	
Trigger levels for emissions into groundwater and monitoring	None Provided. Reporting format to be agreed in writing with the Agency.	
Emission limits to land and monitoring (External landfill gas monitoring)	None Provided. Reporting format to be agreed in writing with the Agency.	
Trigger head levels for leachate gauging.	None Provided. Reporting format to be agreed in writing with the Agency.	
Trigger compliance levels for leachate quality and monitoring	None Provided. Reporting format to be agreed in writing with the Agency.	
Emission limits and monitoring frequency to sewer	None Provided. Reporting format to be agreed in writing with the Agency.	
Notification of abnormal emissions	Schedule 1 - Notification of abnormal emissions	
Waste/Raw Material Return	R1	25/04/03
Waste Summary	WMS1	25/04/03
Landfill Body	None provided. Reporting format to be agreed in writing with the Agency.	
Energy	E1	
Minor Operational Changes	MOC1	

Schedule 4 - Reporting of performance data

Data required to be recorded and reported by Condition 2.7.1.

Table S4.1: Energy consumption			
	Delivered, MWh	**Primary, MWh**	**% of total**
Electricity*			
Gas			
Oil			
Other			

*specify conversion factor of primary source to delivered energy

Schedule 5 - Site Plan

1. The Installation boundary is indicated in green on Drawing N° LL1 entitled "Installation Boundary", dated December 2003, superseded by the letter, dated xx January 2004 confirming applications BU0800 and BU2853 as being a conjoined application.

END OF PERMIT