



# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2010**

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Augean South Limited  
Thornhaugh Landfill Site  
Leicester Road  
Thornhaugh  
Wansford  
Peterborough  
PE8 6NH

**Variation application number**

EPR/RP3133PP/V006

**Consolidated permit number**

EPR/RP3133PP

# Thornhaugh Landfill Site

## Permit number EPR/RP3133PP

### Introductory note

#### **This introductory note does not form a part of the notice.**

The following notice gives notice of the variation of environmental permits A and B referred to in the status logs below and the replacement of those permits with a consolidated environmental permit. We have also issued this variation to consolidate the original permit A and subsequent variations. We have also updated the permit into the current EPR permit template using modern conditions.

The Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2010, regulation 34(1), to periodically review permits. As a result of that review we have identified a number of necessary changes we must make to the permit to reflect current legislation and best practice. These changes principally relate to:

- The addition of a standard condition for landfill gas management at landfills that accept biodegradable waste;
- A change to the hydrogeological risk assessment condition so that reviews are undertaken every 6 years rather than every 4 years;
- Standard leachate and groundwater quality monitoring tables (schedule 3); and
- A standard reporting table (schedule 4).

The operator applied for a variation to their permit to make the following changes:

- To extend the current installation to include operation of landfilling in additional areas of land comprising Phases 1 and 2 (permitted under EAWML 70119) and in an area of land known as 'Bradshaw land' between Phases 4 and 7.
- To excavate wastes that have already been deposited in Phases 1 and 2 and waste materials present in Phases 4 and 7.
- To include a waste operation for sorting, screening and crushing of waste to recover materials prior to their removal from the site or use at site.
- To add temporary storage and handling of excavated waste as a directly associated activity (DAA).
- To remove the Carbon Dioxide compliance limits in accordance with the Industry Code of Practice on perimeter soil gas.

The Schedule 1 to this notice summarises the changes we have made to this permit.

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

<b>Status log of the permit A: EPR/RP3133PP</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application received RP3133PP (EPR/RP3133PP/A001)	Duly made 09/11/04	Application for disposal of non-hazardous waste in a landfill.
Addendum to Application	Received May 2005	
Additional information received	02/09/05	
Additional information received	17/10/05	
Permit determined RP3133PP	09/11/05	Permit issued to Augean South Limited.

<b>Status log of the permit A: EPR/RP3133PP</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
(EPR/RP3133PP)		
Application UP3539LR (EPR/RP3133PP/V002)	Duly made 14/12/05	Application to add landfilling of high sulphate bearing wastes, incorporate new improvement requirements and make changes to Carbon Monoxide emission limit in perimeter gas monitoring boreholes and odour condition.
Additional information received	January 2006 and February 2006	
Additional information received	23/02/06	
Variation determined UP3539LR (EPR/RP3133PP/V002)	22/05/06	Variation issued.
Variation EPR/RP3133PP/V003 determined	28/11/08	Environment Agency variation to update the permit to new landfill template (version 4). Variation issued.
Application EPR/RP3133PP/V004	Duly made 01/10/08	Application to add burning of waste as a fuel as a directly associated activity and update some permit conditions to bring into line with site development.
Application EPR/RP3133PP/V005	Duly made 17/12/09	An administrative variation to revise condition 1.3 in respect of financial provision agreement.
Variation EPR/RP3133PP/V004 determined	24/03/10	Variation issued.
Variation EPR/RP3133PP/V005 determined	30/03/10	Variation issued.
Application EPR/RP3133PP/V006 (variation and consolidation)	Duly made 30/01/15	Application to extend the site boundary, add a waste operation, amend CO <sub>2</sub> compliance limits, update the permit to modern conditions and consolidate with EPR/FP3790NJ (EAWML 70119).
Additional information received	30/01/15	Additional information relating to waste operation, landfill gas compliance limits and odour risk assessment. Submission of an additional fee.
Additional information received	05/05/15	Additional information relating to waste types, CO <sub>2</sub> accumulation, stability of the waste slopes, waste settlement, future waste streams, characterisation of materials and monitoring requirements.
Additional information received	21/05/15	Confirmation of engineered containment, and monitoring of infiltration through the cap for Phase 7A.
Additional information received	25/08/15	Additional information relating to Hydrogeological Risk Assessment (HRA), Landfill Gas Risk Assessment (LFGRA), settlement and its effect on capping and characterisation of materials.
Additional information received	13/11/15	Additional information relating to engineering design and Landsim modelling.
Additional information received	26/01/16	Confirmation of engineered containment, cap design and monitoring of infiltration through the cap for the cells 1, 2, 4 and 7.

<b>Status log of the permit A: EPR/RP3133PP</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Environment Agency Landfill Sector Review 2013/2014 Permit reviewed Variation determined EPR/RP3133PP/V006 Permit EPR/RP3133PP (Billing ref. EP3733WX)	04/05/16	Varied and consolidated permit issued in modern condition format.

<b>Status log of permit B: EAWML 70119</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Waste Disposal Licence issued to Peterborough Quarries Limited EAWML 70119 (EPR/FP3790NJ/A001)	07/11/77	
Licence modified	13/05/85	
Licence modified	09/07/85	
Licence transferred to Midland Land Reclamation Limited	19/05/92	
Licence modified	23/05/96	
Licence modified	26/03/97	
Licence modified	23/02/99	
Licence modified and transferred to Atlantic Waste (Thornhaugh) Limited	27/06/03	
Licence modified	28/11/03	
Licence modified	18/03/04	
Variation FP3790NJ (EPR/FP3790NJ/V002)	31/12/10	Variation to introduce closure requirements of the Landfill Directive.
Application EPR/FP3790NJ/V003 (variation and consolidation)	Duly made 30/01/15	Application to vary and update the permit to modern conditions.
Variation determined EPR/RP3133PP	04/05/16	Varied and consolidated permit issued in modern condition format.

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulations 18 and 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

### Permit numbers

EPR/RP3133PP

EPR/FP3790NJ (EAWML 70119)

### Issued to

**Augean South Limited** (“the operator”)

whose registered office is

**4 Rudgate Court  
Walton  
Wetherby  
West Yorkshire  
LS23 7BF**

company registration number **04636789**

to operate a regulated facility at

**Thornhaugh Landfill Site  
Leicester Road  
Thornhaugh  
Wansford  
Peterborough  
PE8 6NH**

to the extent set out in the schedules.

The notice shall take effect from 04/05/2016.

**The number of the consolidated permit is EPR/RP3133PP.**

Name	Date
Mike Jenkins	04/05/16

Authorised on behalf of the Environment Agency

## Schedule 1

The following conditions were varied as a result of the application made by the operator:

Condition	Description of change
1.2.1	Amended to reflect current financial provision arrangements in place.
1.2.3	Added to impose a new condition in respect of financial provision.
2.1.2	Added to ensure that waste authorised by waste operations are clearly distinguished from any other waste on the site.
2.3.3, 2.3.4, 2.3.5	Added to impose waste acceptance specifications to the wastes accepted and produced by waste operations.
2.7.1	Amended to add Tables S2.4, S2.5 and S2.6.
4.3.3	Added to impose separate notifications condition for waste operations.
4.4.3	Added to interpret a meaning of notification being made "without delay" in respect of waste operations.
Schedules	Description of change
Table S1.3	Improvement requirement 1.1 moved to Table S1.4 Pre-operational measures for future development (IC1).
	Improvement requirement IC1.2 is now improvement requirement IC3.
	New improvement requirements IC1, IC2, IC4, IC5, IC6 and IC7 added.
Table S1.4	Pre-operational requirement PO1 removed as not required.
	Pre-operational requirement PO2 removed as not required.
	New pre-operational requirements PO1 to PO5 added.
Table S1.5	Amended to show gypsum waste as a separate waste stream.
Table S2.2	Added to include waste types accepted for treatment.
Table S3.4	Amended to include revised groundwater compliance limits and interim monitoring requirements.
Table S3.5	Amended to remove Carbon Dioxide compliance limits.

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation. The following table summarises the latest changes to the landfill permit template, however the permit may contain more changes than this where the permit has not been varied to recent template conditions.

Condition	Description of change
1.5	Generic condition to reflect the requirements of the Waste Framework Directive.
2.7.1(a)	Added reference to a specific table to clarify what wastes are permitted by which permitted activity.
2.7.2	Added to separately identify the waste types and quantities that can be accepted for restoration.
2.10	Revised gas management condition imposed for all landfills.
3.1.1	Generic condition imposed on all activities to simplify sub-conditions.
3.1.4 to 3.1.5	Revised conditions to reflect the terminology used by the Groundwater Directive for 'hazardous substances' and to require hydrogeological risk assessment reviews are submitted every 6 years rather than every 4 years.

<b>Condition</b>	<b>Description of change</b>
	Sub-condition that referred to emission of 'non-hazardous pollutants' deleted. Such emissions are regulated by condition 3.2.
	Two sub-conditions that referred to limits in specific tables in schedule 3 deleted as they are now covered by 3.1.1.
3.6	Revised generic pests condition imposed on all activities.
4.2.2	Amended to ensure that information on 'annual production/ treatment' (Schedule 4, Table S4.2) is provided in February each year where annual reports may be submitted at other times of the year.
4.2.2(a)	Text expanded to clarify the details we require in an annual report.
4.2.2(h)	New condition requiring annual submission of a plan of monitoring and extraction locations with reference to monitoring tables in schedule 3
4.3.1	Generic notifications condition added.
<b>Schedules</b>	<b>Description of change</b>
Table S1.1	Amended description of the landfill activity to clarify that this includes restoration. Activity references amended to reflect changes introduced by Industrial Emissions Directive (2010/75/EU).
Table S1.5	Amended to clarify that restoration is a separate part of the activity unrelated to landfill cover.
Schedule 2	Standard list of wastes added.
Schedule 3	Monitoring and compliance tables have been re-ordered so that those with compliance limits appear first. Standard monitoring frequency and parameters have been included for certain routine monitoring requirements.
Table S3.6	Specific requirements for monitoring asbestos fibres added, where necessary.
Table S4.1	Amended to only require regular reports of information that relate to compliance limits.
Table S4.2	Additional details of landfill gas extracted required to improve climate change data quality.
Table S4.3	Amended to include natural gas as an energy source for consistency with other sectors.
Schedule 6	Definitions added to clarify meaning of: Inert waste Exceeded Hazardous substances Medicinal product Previous year Relevant waste acceptance criteria Relevant waste acceptance procedures

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2010

### Permit number

**EPR/RP3133PP**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/RP3133PP/V006 authorising,

**Augean South Limited** (“the operator”),

whose registered office is

**4 Rudgate Court  
Walton  
Wetherby  
West Yorkshire  
LS23 7BF**

company registration number **04636789**

to operate an installation and waste operation at

**Thornhaugh Landfill Site  
Leicester Road  
Thornhaugh  
Wansford  
Peterborough  
PE8 6NH**

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

Name	Date
<b>Mike Jenkins</b>	<b>04/05/16</b>

Authorised on behalf of the Environment Agency



# Conditions

## 1 Management

### 1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and those drawn to the attention of the operator as a result of complaints; and
  - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

### 1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency dated 16 December 2009 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 Environment Agency.
- 1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:
- (a) the costs of setting up and operating the landfill;
  - (b) the costs of the financial provision required by condition 1.2.1; and
  - (c) the estimated costs for the closure and aftercare of the landfill.
- 1.2.3 Where the Environment Agency notifies the operator that additional Financial Provision is required in respect of leachate generation, following the submission and approval of the expenditure plan required by table S1.3 (IC5), this must be made within 3 months of the expenditure plan being approved, failing which deposit of waste in all Phases must cease until such time as it is provided. If the Environment Agency notifies the operator in writing that it cannot approve the revised expenditure plan, the deposit of waste in all Phases must also immediately cease until such time as a revised expenditure plan is approved.

### 1.3 Energy efficiency

- 1.3.1 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
  - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
  - (c) implement any appropriate measures identified by a review.

### 1.4 Efficient use of raw materials

- 1.4.1 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator shall:

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

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

- 1.5.1 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator shall:
- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
  - (b) review and record at least every four years whether changes to those measures should be made; and
  - (c) take any further appropriate measures identified by a review.
- 1.5.2 For the following activities referenced in schedule 1, table S1.1, A9 to A10, the operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
  - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
  - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.5.3 For the following activities referenced in schedule 1, table S1.1, A9 to A10, the operator shall review and record at least every four years whether changes to those measures referred to in condition 1.5.2 should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 For the following activities referenced in schedule 1, table S1.1, A1 to A8, waste authorised by this permit shall be clearly distinguished from any other waste on the site.

### **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

## **2.3 Operating techniques**

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 For the following activities referenced in schedule 1, table S1.1, A9 to A10, waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2; and
  - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.4 For the following activities referenced in schedule 1, table S1.1, A9 to A10, the operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
  - (b) the composition of the waste;
  - (c) the handling requirements of the waste;
  - (d) the hazardous property associated with the waste, if applicable; and
  - (e) the waste code of the waste.
- 2.3.5 For the following activities referenced in schedule 1, table S1.1, A9 to A10, the operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

## **2.4 Improvement programme**

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

## **2.5 Pre-operational conditions**

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

## **2.6 Landfill Engineering**

- 2.6.1 No construction of any new cell of the landfill shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.2 Where the operator proposes to construct any new cell other than the first cell, but proposes no change from the design of the most recently approved cell which could have any impact on the performance of any element of the design, no construction of the new cell shall commence until the

operator has submitted a cell layout drawing and the Environment Agency has confirmed that it is satisfied with the cell layout drawing.

- 2.6.3 The construction of a new cell shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
  - (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.6.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.6.5 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.6 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
  - (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.6.7 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.
- 2.6.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.6.5 and 2.6.6 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.
- 2.6.9 For the purposes of conditions 2.6.1, 2.6.2, 2.6.4 and 2.6.5, the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:
- (a) confirmed whether or not it is satisfied; or
  - (b) informed the operator that it requires further information.
- 2.6.10 Where the Environment Agency has required further information under condition 2.6.9(b), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
- (a) confirmed whether or not it is satisfied; or
  - (b) informed the operator that it requires further information.

## **2.7 Waste acceptance**

- 2.7.1 Wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 2, tables S2.1, S2.4, S2.5 and S2.6, and
  - (b) they are non-hazardous waste or asbestos and construction materials containing asbestos or stable, non reactive hazardous wastes, or gypsum waste, and
  - (c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm), and
  - (d) they are not shredded used tyres, and
  - (e) they are not liquid waste (including waste waters but excluding sludge), and

- (f) they are not 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, and
- (g) all the relevant waste acceptance procedures have been completed, and
- (h) they fulfil the relevant waste acceptance criteria, and
- (i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and
- (j) they are wastes which have 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
- (k) they are wastes with a code beginning with 07 05 and 16 03, they shall exclude waste medicinal products and pharmaceutically active waste materials arising from their manufacture.

2.7.2 Wastes shall only be accepted for restoration where:

- (a) they are listed in schedule 2, table S2.3, and
- (b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.

2.7.3 Stable non-reactive hazardous waste shall not be deposited in cells used or intended to be used for the disposal of biodegradable non-hazardous waste. Stable non-reactive hazardous waste and non-hazardous waste which is landfilled in the same cell must meet the relevant waste acceptance criteria.

2.7.4 Gypsum and other high sulphate bearing waste shall only be disposed of in cells where no biodegradable waste is accepted. Wastes disposed of in a cell with gypsum and other high sulphate bearing wastes must meet the relevant waste acceptance criteria.

2.7.5 Asbestos containing wastes and construction materials containing asbestos shall only be disposed of with other suitable wastes and not in cells containing biodegradable non-hazardous waste. Asbestos waste and construction material containing asbestos must meet the relevant waste acceptance criteria and must be covered daily and before each compaction operation with appropriate material.

2.7.6 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator shall:

- (a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill and waste at the point of deposit; and
- (b) be satisfied that the waste conforms to the requirements of condition 2.7.1.

2.7.7 For the following activities referenced in schedule 1, table S1.1, A1 to A8, where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.

2.7.8 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

2.7.9 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing Figure ESID 4B Drawing Ref AU/TH/09-14/18073 dated 01/10/14.

2.7.10 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in schedule 1 table S1.5.

2.7.11 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of municipal waste and multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

2.7.12 The operator shall maintain and implement a system to record the disposal location of any hazardous waste.

## **2.8 Leachate levels**

2.8.1 The limits for the level of leachate listed in schedule 3, table S3.1 shall not be exceeded.

## **2.9 Closure and aftercare**

2.9.1 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator shall maintain a closure and aftercare management plan.

## **2.10 Landfill gas management**

2.10.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:

- (a) collect landfill gas; and
- (b) control the migration of landfill gas.

2.10.2 The operator shall use the collected landfill gas to produce energy. If the collected landfill gas cannot be used to produce energy, the operator shall use appropriate measures to flare or treat the gas in accordance with an approved landfill gas management plan.

2.10.3 The operator shall:

- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a revised landfill gas management plan;
- (b) implement the revised landfill gas management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

# **3 Emissions and monitoring**

## **3.1 Emissions to water, air or land**

3.1.1 The limits in schedule 3 shall not be exceeded.

3.1.2 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3, tables S3.2 and S3.3.

3.1.3 The limits given in table S3.2 shall not be exceeded, save that compliance with an emission limit in that table shall include incorporation of the uncertainty allowance stated in Environment Agency guidance LFTGN 05 and LFTGN 08.

3.1.4 The operator shall prevent the input of any hazardous substances from the activities into groundwater.

3.1.5 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:

- (a) between nine and six months prior to the fourth anniversary of the granting of the permit, and
- (b) between nine and six months prior to every subsequent six years after the fourth anniversary of the granting of the permit.

## **3.2 Emissions of substances not controlled by emission limits**

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

## **3.3 Odour**

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

## **3.4 Noise and vibration**

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

## **3.5 Pests**

- 3.5.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

## **3.6 Monitoring**

- 3.6.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions specified in the following tables in schedule 3 to this permit:
- (a) Leachate specified in tables S3.1 and S3.10;
  - (b) Point source emissions specified in tables S3.2 and S3.3;
  - (c) Groundwater specified in tables S3.4 and S3.8;
  - (d) Landfill gas specified in tables S3.5, S3.7 and S3.9;
  - (e) Surface water specified in table S3.11;
  - (f) Particulate matter specified in table S3.6; and

- (g) Ambient air specified in table S3.12.
- 3.6.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.6.3 For the following activities referenced in schedule 1, table S1.1, A1 to A8, a topographical survey of the site referenced to ordnance datum shall be carried out and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:
  - (a) annually, and
  - (b) prior to the disposal of waste in any new cell or new development area of the landfill, and
  - (c) following closure of the landfill or part of the landfill.

## **4 Information**

### **4.1 Records**

- 4.1.1 All records required to be made by this permit shall:
  - (a) be legible;
  - (b) be made as soon as reasonably practicable;
  - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
  - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
    - (i) the results of groundwater monitoring;
    - (ii) sub-surface landfill gas monitoring;
    - (iii) leachate levels, quality and quantities;
    - (iv) landfill gas generation and collection;
    - (v) waste types and quantities;
    - (vi) the location of hazardous waste deposits; and
    - (vii) the specification and as built drawings of the basal, sidewall and capping engineering systems.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

### **4.2 Reporting**

- 4.2.1 The operator shall send reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 For the following activities referenced in schedule 1, table S1.1, A1 to A8, a report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may be agreed in writing by the Agency, with the exception of 4.2.2(c) that must be provided by the end of February each year. The report(s) shall include as a minimum:
  - (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments



submitted in relation to this installation and any agreed amendments thereto. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;

- (b) the energy consumed at the site, reported in the format set out in schedule 4, table S4.3;
- (c) the annual production/treatment set out in schedule 4, table S4.2;
- (d) the topographical surveys required by condition 3.6.3 other than those submitted as part of a CQA validation report;
- (e) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;
- (f) an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;
- (g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
- (h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of leachate and landfill gas extraction and all monitoring points.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4, table S4.1;
- (b) using the forms specified in schedule 4, table S4.4 or other reporting format as agreed in writing with the Environment Agency; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.2.5 For the following activities referenced in schedule 1, table S1.1, A1 to A8, the operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

## 4.3 Notifications

4.3.1 For the following activities referenced in schedule 1, table S1.1, A1 to A8,

- (a) in the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
  - (i) inform the Environment Agency,
  - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
  - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) in the event of a breach of any permit condition the operator must immediately—
  - (i) inform the Environment Agency, and

- (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 For the following activities referenced in schedule 1, table S1.1, A9 to A10, the Environment Agency shall be notified without delay following the detection of:
  - (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
  - (b) the breach of a limit specified in the permit; or
  - (c) any significant adverse environmental effects.
- 4.3.4 Any information provided under condition 4.3.3 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.5 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken
- 4.3.6 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
 

Where the operator is a registered company:

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

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

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

In any other case:

  - (a) the death of any of the named operators (where the operator consists of more than one named individual);
  - (b) any change in the operator's name(s) or address(es); and
  - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.7 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
  - (a) the Environment Agency shall be notified at least 14 days before making the change; and
  - (b) the notification shall contain a description of the proposed change in operation.

## **4.4 Interpretation**

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 For the following activities referenced in schedule 1, table S1.1, A1 to A8, in this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately”, in which case it may be provided by telephone.
- 4.4.3 For the following activities referenced in schedule 1, table S1.1, A9 to A10, in this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “without delay”, in which case it may be provided by telephone.

# Schedule 1 – Operations

<b>Table S1.1 activities</b>				
<b>Activity reference</b>	<b>WFD Annex I and II operations (where applicable)</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
A1	D5 –Specially engineered landfill and R10 – Land treatment resulting in benefit to agriculture or ecology	Section 5.2 Part A(1) (a), The disposal of waste in a landfill.	Landfill for non-hazardous waste and landfill restoration	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.7, as an integral part of landfilling.
A2	D5 –Specially engineered landfill and R10 – Land treatment resulting in benefit to agriculture or ecology	Section 5.2 Part A(1) (a), The disposal of waste in a landfill.	Landfill for hazardous waste (stable non-reactive or asbestos) and landfill restoration	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.7, as an integral part of landfilling.
<b>Directly Associated Activities</b>				
A3	N/A	-	Landfill gas extraction and flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the landfill.
A4	N/A	-	Leachate extraction and removal off site.	Leachate arising from the landfill. Leachate recirculation is not permitted.
A5	D6 – release to water body except seas/ oceans	-	Discharges of site drainage from the landfill.	From surface water management system to point of entry to controlled waters.
A6	N/A	-	Storage of fuel for operation of plant and equipment.	Fuel storage tank.
A7	N/A	-	Storage and handling of drums prior to disposal.	Receipt, handling and storage fulfils requirement of Waste Acceptance Criteria prior to disposal.

<b>Table S1.1 activities</b>				
<b>Activity reference</b>	<b>WFD Annex I and II operations (where applicable)</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
A8	N/A	-	Temporary storage and handling of excavated waste and non-waste material.	Storage and handling of waste and non-waste material arising from the landfill Phases 1, 2, 4 and 7. Non-waste materials only shall be stored outside the permit boundary. Non-waste status shall be confirmed in accordance with Document Ref. AU/TH/MAS/5477/01/EMP entitled "Principles of Materials Excavation and Management at Thornhaugh Landfill including detail on the characterisation of materials" dated August 2015 and pre-operational condition PO3.
<b>Waste operations</b>				
<b>Activity reference</b>	<b>Description of activities for waste operations</b>		<b>Limits of activities</b>	
A9	R5 Recycling/reclamation of inorganic substances		Physical treatment including sorting, separation, screening, crushing, or other physical grading of non-hazardous waste prior to re-use on site or export from the site for re-use for the purpose of recovery. Waste types as specified in table S2.2. No more than 250,000 tonnes of waste shall be treated per year.	
A10	R13 Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where the waste is produced)		Waste types as specified in table S2.2. No more than 75,000 tonnes of waste shall be stored at any one time. Wastes shall be stored for no longer than 3 years prior to recovery.	

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application	The response to question 2.1, 2.2, 2.3, 2.4 and 2.5 in part B of the application form, with the following exclusions; <ul style="list-style-type: none"> <li>• ESID 11 'Local Hydrogeology'</li> <li>• ESID 13 'Source Pathway',</li> </ul>	09/11/04

Table S1.2 Operating techniques		
Description	Parts	Date Received
	<p>and amended drawings dated 31/03/05;</p> <ul style="list-style-type: none"> <li>• DESID 6A 'Installation Infrastructure',</li> <li>• DESID 4A 'Site Layout',</li> <li>• DESID 4D 'Pre-settlement Contours'</li> <li>• DESID 8A 'LFG Monitoring Points'</li> <li>• DESID 8C 'LFG Collection System'</li> </ul> <p>Insofar as the installation boundary has been superseded by drawing ref. DWG/44879/01 'Installation Infrastructure' dated October 2005.</p>	
Addendum to the application	All	May 2005
Response to request for further information dated 5 August 2005	All, with the following exclusions; Drawing ref.: 44879/01 'Installation Infrastructure' dated 01/09/05 insofar as it has been superseded by drawing ref.: DWG/44879/01 'Installation Infrastructure' dated October 2005	September 2005
Response to request for information dated 3 October 2005	All, with the following exclusions; Drawing ref.: DWG/44879/3 'Cross Sections' dated October 2005 insofar that section 4 relates to a vertical barrier which is not acceptable to the Agency	October 2005
Variation application dated November 2005	All, excluding the proposals for phase 5 vertical separation bunds see IC 13a and 13b	November 2005
Response to Schedule 4 Notice dated 22 December 2005	All  Landfill gas risk assessment Thornhaugh Landfill Site dated Jan 2006 supersedes the Landfill gas risk assessment included in the original PPC application. Drawing reference DWG/44879/1-RE01 supersedes drawing ref.: DWG/44879/1 in the variation application.	January 2006
Response to Schedule 4 Notice dated 22 December 2005	All  Drawing Ref: DWG/44879/1-RE02 supersedes drawing DWG/44879/1-RE01 contained in the schedule 4 response dated January 2006 Revised Stability Risk Assessment dated February 2006 ( excluding the proposals for Phase 5 vertical separation bunds see IC 13a and 13b) supersedes Stability Risk Assessment in the variation application	February 2006
Response to letter from Karen Andrews to Atlantic Waste (Thornhaugh) Ltd dated 21 <sup>st</sup>	All of letter from Dr Edward Slaney to Karen Andrews	23/02/06

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
February 2006		
Monitoring Action Plan	All	16/09/08
Application	<p>Appendix E – ESID report of the Application in response to section 3a – technical standards, Part C3 of the application form, excluding any reference to leachate recirculation</p> <p>Section 3 ‘Landfill Gas Management Plan’ of Appendix H- Landfill Gas Risk Assessment (LGRA)</p> <p>Appendix I – Nuisance Risk Assessment of the Application including management plans, but excluding any reference to leachate recirculation</p>	03/10/14
Response to request for further information dated 31 December 2014	<ul style="list-style-type: none"> <li>• Document Ref. AU_THc16823z.Schedule1 Jan. 2015: Schedule 1 – Waste Treatment Operation</li> <li>• Document Ref. AU_THc16823z.Schedule2 Jan. 2015: Schedule 2 – Landfill Gas Compliance Limits</li> <li>• Spreadsheet Ref. AU_THc16823z.Schedule2 Jan.2015: ICOP CO2 action levels</li> <li>• Document Ref. AU_THc16823z.Schedule3 Jan. 2015: Schedule 3 – Odour</li> </ul>	30/01/15
Response to Schedule 5 Notice dated 19 March 2015	<ul style="list-style-type: none"> <li>• A response to question 3 on monitoring the stability of existing waste slopes</li> </ul>	05/05/15
Letter dated 21 May 2015	Confirmation on engineered containment, and monitoring of infiltration through the cap for Phase 7A from MJCA to the Environment Agency, sent by e-mail only	21/05/15
Response to Schedule 5 Notice dated 16 July 2015	<ul style="list-style-type: none"> <li>• A response to question 2 on settlement</li> <li>• Document Ref. AU/TH/MAS/5477/01/EMP entitled “Principles of Materials Excavation and Management at Thornhaugh Landfill including detail on the characterisation of materials” dated August 2015.</li> </ul>	25/08/15
E-mail dated 26 January 2016	Confirmation on engineered containment, cap design and monitoring of infiltration through the cap for the cells 1, 2, 4 and 7 from MJCA to the Environment Agency, sent by e-mail only.	26/01/16
Drawing dated 27/04/16	Drawing ref. AU/TH/04-15/18613revB ‘Monitoring and extraction point plan MEPP’ dated 27/04/16 sent by e-mail only	27/04/16

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	The operator shall submit to the Environment Agency for approval details of the waste types, quantities and acceptance criteria for wastes that are and will be accepted on site for the purpose of landfill restoration.	18 months from permit issue
IC2	The operator shall undertake a review and where necessary update all existing monitoring action plans to take account of any changes to monitoring requirements in the permit. The operator shall submit the updated plans to the Environment Agency for approval.	6 months from permit issue
IC3	The operator shall sample the exhaust gases from the microturbine at monthly intervals for 12 months and analyse for Oxides of Nitrogen, Carbon Monoxide, Total Volatile Organic Compounds & Non-methane Volatile Organic Compounds. The sampling and analysis of the gas is to be carried out in accordance with the Environment Agency Guidance LFTGN05 and LFTGN08. The results of the analysis of the microturbine emissions are to be used to re-run the air dispersion model for the site. The operator is to determine emission limit values for the microturbine emissions based on the air dispersion model results, sufficient to not breach environmental assessment limits at nearby residential receptors.	14 months after installation of microturbine
IC4	The operator shall implement the procedure proposed in accordance with Pre-operational measure 5 in Table S1.4 and upon obtaining the Environment Agency's written approval to them to monitor or verify the cap infiltration rates in Phase 7A.	Once capping completed in Phase 7A
IC5	The operator shall review the expenditure plan then in force for the site in respect of leachate generation based on the cap infiltration monitoring or verification carried out in Phase 7A. The revised expenditure plan shall be submitted to the Environment Agency for approval.	Within 30 months of the capping in Phase 7A being completed
IC6	The operator shall install groundwater monitoring borehole TH26 at the location identified on plan MEPP ref. AU/TH/04-15/18613revB dated 27/04/16.	6 months from permit issue
IC7	The operator shall submit a written report to the Environment Agency for approval. The report shall include a review of at least 12 months of groundwater quality data from monitoring borehole TH26, proposals for groundwater control and compliance levels for selected determinands, and a contingency action plan. The control and compliance levels shall be adopted upon receipt of written agreement from and the date stipulated by the Environment Agency.	21 months from permit issue



<b>Table S1.4 Pre-operational measures for future development</b>		
<b>Reference</b>	<b>Operation</b>	<b>Pre-operational Measures</b>
PO1	Microturbine	Prior to operation of the microturbine the operator shall develop management and maintenance procedures for the microturbine and submit these procedures to the Environment Agency and obtain the Environment Agency's written approval to them. Once approved these procedures are to be included within the integrated management system documents for the site.
PO2	Stable non-reactive hazardous waste, asbestos waste and construction material containing asbestos, and gypsum waste deposit in Phases 1, 2, 4 and 7	Prior to construction of mono cells for stable non-reactive hazardous waste, asbestos waste and construction material containing asbestos, and gypsum waste, the operator shall review their risk assessments and submit a report detailing the findings of the review and any necessary changes in respect of monitoring requirements and management plans to the Environment Agency and obtain the Environment Agency's written approval to it.
PO3	Excavation and storage of waste from Phases 1, 2, 4 and 7	Prior to the excavation of waste disposed of in Phases 1, 2, 4 and 7 the operator shall submit to the Environment Agency detailed waste management procedures in respect of the relevant phase which is to be progressed by the operator and obtain the Environment Agency's written approval to them. These shall include, but not be limited to, details of reuse, relocation and disposal of excavated waste and non waste materials, assessment and categorisation of the wastes, trial pit logs and analysis, loading procedures and supervision, and any necessary additional environmental monitoring and emission control. The procedures shall include a plan showing the storage locations and types of wastes and non waste materials in each stockpile.
PO4	Waste deposit in Phase 1 East, Phase 1 West, Phase 2 East and Phase 2 West	Prior to waste deposit in any new cell in Phase 1 East, Phase 1 West, Phase 2 East and Phase 2 West the operator shall remove all existing waste from the area proposed for each new cell sufficient to facilitate construction of the new cell in accordance with condition 2.6 on landfill engineering.
PO5	Capping in Phase 7A	Prior to commencement of capping in Phase 7A the operator shall submit to the Environment Agency detailed written proposals to monitor or verify through other measures which may include experimentation or calculation the cap infiltration in Phase 7A and obtain the Environment Agency's written approval to them.

<b>Table S1.5 Annual waste input limits for disposal or restoration</b>	
<b>Category</b>	<b>Limit Tonnes/Year</b>
Non-hazardous waste	175,000

<b>Table S1.5 Annual waste input limits for disposal or restoration</b>	
<b>Category</b>	<b>Limit Tonnes/Year</b>
Stable non-reactive hazardous waste, and asbestos waste and construction material containing asbestos	150,000
Gypsum waste	0
Inert waste	25,000
Waste for restoration	As agreed in accordance with IC1 in table S1.3
<b>Total</b>	350 000

## Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
<b>01</b>	<b>Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals</b>
<b>01 01</b>	<b>wastes from mineral excavation</b>
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
<b>01 03</b>	<b>wastes from physical and chemical processing of metalliferous minerals</b>
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 07
<b>01 04</b>	<b>wastes from physical and chemical processing of non-metalliferous minerals</b>
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
<b>01 05</b>	<b>drilling muds and other drilling wastes</b>
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 01	sludges from washing and cleaning
02 01 02	animal-tissue waste
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08
02 01 10	waste metal

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
<b>02 02</b>	<b>wastes from the preparation and processing of meat, fish and other foods of animal origin</b>
02 02 01	sludges from washing and cleaning
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
<b>02 03</b>	<b>wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation</b>
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
<b>02 04</b>	<b>wastes from sugar processing</b>
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 04 03	sludges from on-site effluent treatment
<b>02 05</b>	<b>wastes from the dairy products industry</b>
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
<b>02 06</b>	<b>wastes from the baking and confectionery industry</b>
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
<b>02 07</b>	<b>wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)</b>
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
<b>03</b>	<b>Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard</b>
<b>03 01</b>	<b>wastes from wood processing and the production of panels and furniture</b>
03 01 01	waste bark and cork

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
03 03 01	waste bark and wood
03 03 02	green liquor sludge (from recovery of cooking liquor)
03 03 05	de-inking sludges from paper recycling
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 09	lime mud waste
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
<b>04</b>	<b>Wastes from the leather, fur and textile industries</b>
<b>04 01</b>	<b>wastes from the leather and fur industry</b>
04 01 01	fleshings and lime split wastes
04 01 02	liming waste
04 01 04	tanning liquor containing chromium
04 01 05	tanning liquor free of chromium
04 01 06	sludges, in particular from on-site effluent treatment containing chromium
04 01 07	sludges, in particular from on-site effluent treatment free of chromium
04 01 08	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	wastes from dressing and finishing
<b>04 02</b>	<b>wastes from the textile industry</b>
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	organic matter from natural products (for example grease, wax)
04 02 15	wastes from finishing other than those mentioned in 04 02 14
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
<b>05</b>	<b>Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal</b>
<b>05 01</b>	<b>wastes from petroleum refining</b>
05 01 13	boiler feedwater sludges
05 01 14	wastes from cooling columns
05 01 17	bitumen

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
<b>05 06</b>	<b>wastes from the pyrolytic treatment of coal</b>
05 06 04	waste from cooling columns
<b>06</b>	<b>Wastes from inorganic chemical processes</b>
<b>06 03</b>	<b>wastes from the MFSU of salts and their solutions and metallic oxides</b>
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 16	metallic oxides other than those mentioned in 06 03 15
<b>06 05</b>	<b>sludges from on-site effluent treatment</b>
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
<b>06 09</b>	<b>wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes</b>
06 09 02	phosphorous slag
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
<b>06 11</b>	<b>wastes from the manufacture of inorganic pigments and opacifiers</b>
06 11 01	calcium-based reaction wastes from titanium dioxide production
<b>06 13</b>	<b>wastes from inorganic chemical processes not otherwise specified</b>
06 13 03	carbon black
<b>07</b>	<b>Wastes from organic chemical processes</b>
<b>07 01</b>	<b>wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals</b>
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
<b>07 02</b>	<b>wastes from the MFSU of plastics, synthetic rubber and man-made fibres</b>
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 13	waste plastic
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 17	waste containing silicones other than those mentioned in 07 02 16
<b>07 03</b>	<b>wastes from the MFSU of organic dyes and pigments (except 06 11)</b>
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
<b>07 04</b>	<b>wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides</b>
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
<b>07 05</b>	<b>wastes from the MFSU of pharmaceuticals</b>
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 14	solid wastes other than those mentioned in 07 05 13

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
<b>07 06</b>	<b>wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics</b>
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11
<b>07 07</b>	<b>wastes from the MFSU of fine chemicals and chemical products not otherwise specified</b>
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11
<b>08</b>	<b>Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks</b>
<b>08 01</b>	<b>wastes from MFSU and removal of paint and varnish</b>
08 01 12	waste paint and varnish other than those mentioned in 08 01 11
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17
<b>08 02</b>	<b>wastes from MFSU of other coatings (including ceramic materials)</b>
08 02 01	waste coating powders
08 02 02	aqueous sludges containing ceramic materials
<b>08 03</b>	<b>wastes from MFSU of printing inks</b>
08 03 07	aqueous sludges containing ink
08 03 13	waste ink other than those mentioned in 08 03 12
08 03 15	ink sludges other than those mentioned in 08 03 14
08 03 18	waste printing toner other than those mentioned in 08 03 17
<b>08 04</b>	<b>wastes from MFSU of adhesives and sealants (including water proofing products)</b>
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
<b>09</b>	<b>Wastes from the photographic industry</b>
<b>09 01</b>	<b>wastes from the photographic industry</b>
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
09 01 10	single-use cameras without batteries
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
<b>10</b>	<b>Wastes from thermal processes</b>
<b>10 01</b>	<b>wastes from power stations and other combustion plants (except 19)</b>

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22
10 01 24	sands from fluidised beds
10 01 25	wastes from fuel storage and preparation of coal-fired power plants
10 01 26	wastes from cooling-water treatment
<b>10 02</b>	<b>wastes from the iron and steel industry</b>
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10	mill scales
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15	other sludges and filter cakes
<b>10 03</b>	<b>wastes from aluminium thermal metallurgy</b>
10 03 02	anode scraps
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 20	flue-gas dust other than those mentioned in 10 03 19
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
<b>10 04</b>	<b>wastes from lead thermal metallurgy</b>
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09
<b>10 05</b>	<b>wastes from zinc thermal metallurgy</b>



<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
10 05 01	slags from primary and secondary production
10 05 04	other particulates and dust
10 05 09	wastes from cooling-water treatment other than those mentioned in 10 05 08
10 05 11	dross and skimmings other than those mentioned in 10 05 10
<b>10 06</b>	<b>wastes from copper thermal metallurgy</b>
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 06 04	other particulates and dust
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09
<b>10 07</b>	<b>wastes from silver, gold and platinum thermal metallurgy</b>
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 07 03	solid wastes from gas treatment
10 07 04	other particulates and dust
10 07 05	sludges and filter cakes from gas treatment
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07
<b>10 08</b>	<b>wastes from other non-ferrous thermal metallurgy</b>
10 08 04	particulates and dust
10 08 09	other slags
10 08 11	dross and skimmings other than those mentioned in 10 08 10
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14	anode scrap
10 08 16	flue-gas dust other than those mentioned in 10 08 15
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19
<b>10 09</b>	<b>wastes from casting of ferrous pieces</b>
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 10	flue-gas dust other than those mentioned in 10 09 09
10 09 12	other particulates other than those mentioned in 10 09 11
10 09 14	waste binders other than those mentioned in 10 09 13
10 09 16	waste crack-indicating agent other than those mentioned in 10 09 15
<b>10 10</b>	<b>wastes from casting of non-ferrous pieces</b>

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 10	flue-gas dust other than those mentioned in 10 10 09
10 10 12	other particulates other than those mentioned in 10 10 11
10 10 14	waste binders other than those mentioned in 10 10 13
10 10 16	waste crack-indicating agent other than those mentioned in 10 10 15
<b>10 11</b>	<b>wastes from manufacture of glass and glass products</b>
10 11 03	waste glass-based fibrous materials
10 11 05	particulates and dust
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 14	glass-polishing and -grinding sludge other than those mentioned in 10 11 13
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19
<b>10 12</b>	<b>wastes from manufacture of ceramic goods, bricks, tiles and construction products</b>
10 12 01	waste preparation mixture before thermal processing
10 12 03	particulates and dust
10 12 05	sludges and filter cakes from gas treatment
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 12	wastes from glazing other than those mentioned in 10 12 11
10 12 13	sludge from on-site effluent treatment
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 01	waste preparation mixture before thermal processing
10 13 04	wastes from calcination and hydration of lime
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)
10 13 07	sludges and filter cakes from gas treatment
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
10 13 14	waste concrete and concrete sludge
<b>11</b>	<b>Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy</b>
<b>11 01</b>	<b>wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)</b>
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09
11 01 14	degreasing wastes other than those mentioned in 11 01 13
<b>11 02</b>	<b>wastes from non-ferrous hydrometallurgical processes</b>
11 02 03	wastes from the production of anodes for aqueous electrolytical processes
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05
<b>11 05</b>	<b>wastes from hot galvanising processes</b>
11 05 01	hard zinc
11 05 02	zincash
<b>12</b>	<b>Wastes from shaping and physical and mechanical surface treatment of metals and plastics</b>
<b>12 01</b>	<b>wastes from shaping and physical and mechanical surface treatment of metals and plastics</b>
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 13	welding wastes
12 01 15	machining sludges other than those mentioned in 12 01 14
12 01 17	waste blasting material other than those mentioned in 12 01 16
12 01 21	spent grinding bodies and grinding materials other than those mentioned in 12 01 20
<b>15</b>	<b>Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
15 01 06	mixed packaging
15 01 07	glass packaging
15 01 09	textile packaging
<b>15 02</b>	<b>absorbents, filter materials, wiping cloths and protective clothing</b>
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 01</b>	<b>end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)</b>
16 01 03	end-of-life tyres
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 17	ferrous metal
16 01 18	non-ferrous metal
16 01 19	plastic
16 01 20	glass
16 01 16	tanks for liquefied gas
16 01 22	components not otherwise specified
<b>16 02</b>	<b>wastes from electrical and electronic equipment</b>
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
<b>16 03</b>	<b>off-specification batches and unused products</b>
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
<b>16 05</b>	<b>gases in pressure containers and discarded chemicals</b>
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
<b>16 06</b>	<b>batteries and accumulators</b>
16 06 04	alkaline batteries (except 16 06 03)
16 06 05	other batteries and accumulators
<b>16 08</b>	<b>spent catalysts</b>
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
<b>16 11</b>	<b>waste linings and refractories</b>

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
<b>17</b>	<b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
<b>17 02</b>	<b>wood, glass and plastic</b>
17 02 01	wood
17 02 02	glass
17 02 03	plastic
<b>17 03</b>	<b>bituminous mixtures, coal tar and tarred products</b>
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
<b>17 04</b>	<b>metals (including their alloys)</b>
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
<b>17 05</b>	<b>soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
<b>17 06</b>	<b>insulation materials and asbestos-containing construction materials</b>
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03
<b>17 09</b>	<b>other construction and demolition wastes</b>
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
	02 and 17 09 03
<b>18</b>	<b>Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)</b>
<b>18 02</b>	<b>wastes from research, diagnosis, treatment or prevention of disease involving animals</b>
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 06	chemicals other than those mentioned in 18 02 05
<b>19</b>	<b>Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use</b>
<b>19 01</b>	<b>wastes from incineration or pyrolysis of waste</b>
19 01 02	ferrous materials removed from bottom ash
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
<b>19 03</b>	<b>stabilised/solidified wastes<sup>1</sup></b>
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
<b>19 04</b>	<b>vitrified waste and wastes from vitrification</b>
19 04 01	vitrified waste
<b>19 05</b>	<b>wastes from aerobic treatment of solid wastes</b>
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>

<sup>1</sup> Stabilisation processes change the dangerousness of the constituents in the waste and thus transform hazardous waste into non-hazardous waste. Solidification processes only change the physical state of the waste (e.g. liquid into solid) by using additives without changing the chemical properties of the waste.

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 01	screenings
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
<b>19 09</b>	<b>wastes from the preparation of water intended for human consumption or water for industrial use</b>
19 09 01	solid waste from primary filtration and screenings
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 04	spent activated carbon
19 09 05	saturated or spent ion exchange resins
19 09 06	solutions and sludges from regeneration of ion exchangers
<b>19 10</b>	<b>wastes from shredding of metal-containing wastes</b>
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
<b>19 11</b>	<b>wastes from oil regeneration</b>
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 01	paper and cardboard
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
19 12 05	glass
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other

<b>Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste</b>	
<b>Waste code</b>	<b>Description</b>
	than those mentioned in 19 12 11
<b>19 13</b>	<b>wastes from soil and groundwater remediation</b>
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 01	paper and cardboard
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 01 41	wastes from chimney sweeping
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes
<b>20 03</b>	<b>other municipal wastes</b>
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste



<b>Table S2.2 Permitted waste types accepted for treatment</b>	
<b>Waste code</b>	<b>Description (not consisting of solely or mainly dusts or powders)</b>
<b>01</b>	<b>Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals</b>
<b>01 01</b>	<b>wastes from mineral excavation</b>
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
<b>01 04</b>	<b>wastes from physical and chemical processing of non-metalliferous minerals</b>
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
<b>10</b>	<b>Wastes from thermal processes</b>
<b>10 11</b>	<b>wastes from manufacture of glass and glass products</b>
10 11 03	waste-glass based fibrous materials
10 11 12	waste glass other than those mentioned in 10 11 11
<b>10 12</b>	<b>wastes from manufacture of ceramic goods, bricks, tiles and construction products</b>
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 14	waste concrete
<b>15</b>	<b>Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 07	glass packaging
<b>17</b>	<b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
<b>17 02</b>	<b>wood, glass and plastic</b>
17 02 02	glass
<b>17 03</b>	<b>bituminous mixtures, coal tar and tarred products</b>
17 03 02	bituminous mixtures other than those mentioned in 17 01 06
<b>17 05</b>	<b>soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
<b>17 09</b>	<b>other construction and demolition wastes</b>
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09

<b>Table S2.2 Permitted waste types accepted for treatment</b>	
<b>Waste code</b>	<b>Description (not consisting of solely or mainly dusts or powders)</b>
	02 and 17 09 03 (containing only waste materials that would be described by waste codes 17 01 01, 17 03 02 and 17 05 04, if the waste was not mixed)
<b>19</b>	<b>Wastes from waste management facilities, off-site waste water treatment plants and preparation of water intended for human consumption/industrial use</b>
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 02	washed sewage grit (waste from desanding) free from sewage contamination only
19 08 99	stone filter media if free from sewage contamination only
<b>19 12</b>	<b>Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 05	glass
19 12 09	minerals (for example sand, stones)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 (from Phases 1, 2, 4 and 7 containing only waste materials that would be described by waste codes 17 01 01, 17 03 02 and 17 05 04, if the waste was not mixed)
<b>19 13</b>	<b>wastes from soil and groundwater remediation</b>
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
<b>20</b>	<b>Municipal wastes (household wastes and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 02	glass
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 02	soil and stones

<b>Table S2.3 Permitted waste types for restoration</b>	
As agreed in accordance with IC1 in Table S1.3	

<b>Table S2.4 Permitted waste types for disposal in the stable non-reactive hazardous waste cell</b>	
<b>Waste code</b>	<b>Description</b>
<b>17</b>	<b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
<b>17 02</b>	<b>wood, glass and plastic</b>
17 02 04*	glass, plastic and wood containing or contaminated with dangerous substances
<b>17 03</b>	<b>bituminous mixtures, coal tar and tarred products</b>
17 03 03*	coal tar and tarred products
<b>17 04</b>	<b>metals (including their alloys)</b>
17 04 09*	metal waste contaminated with dangerous substances

<b>Table S2.4 Permitted waste types for disposal in the stable non-reactive hazardous waste cell</b>	
<b>Waste code</b>	<b>Description</b>
<b>17 05</b>	<b>soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 03*	soil and stones containing dangerous substances
17 05 05*	dredging spoil containing dangerous substances
17 05 07*	track ballast containing dangerous substances
<b>17 09</b>	<b>other construction and demolition wastes</b>
17 09 01*	construction and demolition wastes containing mercury
17 09 02*	construction and demolition wastes containing PCB (for example PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)
17 09 03*	other construction and demolition wastes (including mixed wastes) containing dangerous substances
<b>19</b>	<b>Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use</b>
<b>19 13</b>	<b>wastes from soil and groundwater remediation</b>
19 13 01*	solid wastes from soil remediation containing dangerous substances
19 13 03*	sludges from soil remediation containing dangerous substances

<b>Table S2.5 Permitted waste types for disposal in the asbestos cell</b>	
<b>Waste code</b>	<b>Description</b>
<b>06</b>	<b>Wastes from inorganic chemical processes</b>
<b>06 07</b>	<b>wastes from the MFSU of halogens and halogen chemical processes</b>
06 07 01*	wastes containing asbestos from electrolysis
<b>06 13</b>	<b>wastes from inorganic chemical processes not otherwise specified</b>
06 13 04*	wastes from asbestos processing
<b>10</b>	<b>Wastes from thermal processes</b>
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 09*	wastes from asbestos-cement manufacture containing asbestos
<b>15</b>	<b>Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 11*	metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 01</b>	<b>end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)</b>
16 01 11*	brake pads other than those mentioned in 16 01 11
<b>16 02</b>	<b>wastes from electrical and electronic equipment</b>
16 02 12*	discarded equipment containing free asbestos

<b>Table S2.5 Permitted waste types for disposal in the asbestos cell</b>	
<b>Waste code</b>	<b>Description</b>
<b>17</b>	<b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>
<b>17 06</b>	<b>insulation materials and asbestos-containing construction materials</b>
17 06 01*	insulation materials containing asbestos
17 06 05*	construction materials containing asbestos

<b>Table S2.6 Permitted waste types for disposal in the gypsum cell</b>	
<b>Waste code</b>	<b>Description</b>
<b>05</b>	<b>Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal</b>
<b>05 01</b>	<b>wastes from petroleum refining</b>
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 16	sulphur-containing wastes from petroleum desulphurisation
<b>05 07</b>	<b>wastes from natural gas purification and transportation</b>
05 07 02	wastes containing sulphur
<b>06</b>	<b>Wastes from inorganic chemical processes</b>
<b>06 06</b>	<b>wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes</b>
06 06 03	wastes containing sulphides other than those mentioned in 06 06 02
<b>10</b>	<b>Wastes from thermal processes</b>
<b>10 01</b>	<b>wastes from power stations and other combustion plants (except 19)</b>
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07	calcium-based reaction wastes from flue-gas desulphurisation in sludge form
<b>17</b>	<b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>
<b>17 08</b>	<b>gypsum-based construction material</b>
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01
<b>18</b>	<b>Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)</b>
<b>18 01</b>	<b>wastes from natal care, diagnosis, treatment or prevention of disease in humans</b>
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example plaster casts)

## Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description	Limit	Monitoring frequency	Monitoring standard and method
<b>Operational Cells or Phases</b> (Any cells or phases that do not have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
Leachate compliance and monitoring points THLW_5A112, THLW_5A113, THLW_5A12, THLW_5A13, THLW_5A22, THLW_5A23, THLW_5B12, THLW_5B13, THLW_5B23, THLW_1E2, THLW_1E3, THLW_1W2, THLW_1W3, THLW_2E2, THLW_2E3, THLW_2W2, THLW_2W3, THLW_2BN2, THLW_2BN3, THLW_2CN2, THLW_2CN3, THLW_2BS2, THLW_2BS3, THLW_2CS2, THLW_2CS3, THLW_7A2, THLW_7A3, THLW_7B2, THLW_7B3, THLW_7C2, THLW_7C3, THLW_5A11, THLW_5A111, THLW_5A21, THLW_5B21, THLW_5B22, THLW_1E1, THLW_1W1, THLW_2E1, THLW_2W1, THLW_2CN1, THLW_2BN1, THLW_2BS1, THLW_2CS1, THLW_7A1, THLW_7B1, THLW_7C1 on Plan MEPP ref. AU/TH/04-15/18613revB dated 27/04/16	1.5 m above cell base	Monthly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.

<b>Table S3.1 Leachate level limits and monitoring requirements</b>			
<b>Monitoring point reference/Description</b>	<b>Limit</b>	<b>Monitoring frequency</b>	<b>Monitoring standard and method</b>
<b>Non Operational Cells or Phases</b> (Any cells or phases that have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
Leachate compliance and monitoring points THLW_3A1, THLW_3A2, THLW_3A3, THWL_6A1, THWL_6A2, THLW_6A3, THLW_6B1, THLW_6B2, THLW_6B3, THLW_6B21, THLW_6B22, THLW_6B23 on Plan MEPP ref. AU/TH/04-15/18613revB dated 27/04/16	1.5 m above cell base	Quarterly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.

<b>Table S3.2 Point source emissions to air – emission limits and monitoring requirements</b>						
<b>Emission point Ref. &amp; Location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference Period</b>	<b>Monitoring Frequency</b>	<b>Monitoring Standard or Method</b>
Landfill gas flare on Plan MEPP ref.AU/TH/04-15/18613 dated 05/05/15  All these are referenced to Normal Temperature and Pressure (NTP), at 3% oxygen and dry gas.	Oxides of Nitrogen	Landfill Gas Flare	150 mg/m <sup>3</sup>	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency. Monitoring is unnecessary where the flare is active for <10% of the year.
	CO		50 mg/m <sup>3</sup>			
	Total VOCs		10 mg/m <sup>3</sup>			
Landfill gas Microturbine  Referenced to Normal Temperature (273K) and Pressure (101.3 kPa) at 15/% Oxygen and dry gas	Oxides of Nitrogen	Microturbine	In accordance with the IC3.	Hourly mean	Annually	In accordance with the IC3.
	CO					
	Total VOCs					

<b>Emission point Ref. &amp; Location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (incl unit)</b>	<b>Reference Period</b>	<b>Monitoring Frequency</b>	<b>Monitoring Standard or Method</b>
SWNEPOND SWSLTAP SWOFALL SWTBECK SWCHTRM SWNEWT1 SWNEWT2 SWP4 on Plan MEPP ref. AU/TH/04- 15/18613revB dated 27/04/16	Ammoniacal Nitrogen	Surface water	<1mg/l	Spot Sample	Monthly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Suspended Solids	Surface water	40 mg/l	Spot Sample	Monthly	
	pH	Surface water	>6 and <9 pH units	Spot sample	Monthly	
	Chloride	Surface water	250mg/l	Spot sample	Monthly	
	Oil/greases	Surface water	No visible oil or grease	Spot sample	Monthly	

<b>Monitoring point reference*</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
TH05, TH09, TH12, TH13, TH14, TH15, TH19A	Ammoniacal Nitrogen	0.39 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Chloride	250 mg/l			
	Cadmium	0.00032 mg/l			
	MTBE	0.001 mg/l			
	Naphthalene	0.00045 mg/l			
	Trichloroethene	0.00002 mg/l			
	Manganese	0.22 mg/l			
	Phenol	0.046 mg/l			



Table S3.4 Groundwater – emission limits and monitoring requirements					
Monitoring point reference*	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
Interim groundwater monitoring requirements until completion of excavation of the waste materials and installation of engineered liner in Phases 1 and 2.					
TH10	Ammoniacal Nitrogen	10 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit</u> ( <a href="http://www.gov.uk">www.gov.uk</a> ), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
TH11		No limit			
TH17A		5.07 mg/l			
TH18A		42 mg/l			
TH10	Chloride	235 mg/l			
TH11		452 mg/l			
TH17A		279 mg/l			
TH18A		208 mg/l			
TH10	Electrical conductivity	2220 µS/cm			
TH11		2880 µS/cm			
TH17A		1628 µS/cm			
TH18A		2670 µS/cm			
TH10	Mecoprop	0.0027 mg/l			
TH11		0.0421 mg/l			
TH17A		0.0540 mg/l			
TH18A		0.0072 mg/l			
TH10	Naphthalene	0.00014 mg/l			
TH11		0.0268 mg/l			
TH17A		No limit			
TH18A		No limit			
TH10	Sodium	180 mg/l			
TH11		555 mg/l			

<b>Table S3.4 Groundwater – emission limits and monitoring requirements</b>					
<b>Monitoring point reference*</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
TH17A		52 mg/l			
TH18A		276 mg/l			
* As shown on Plan MEPP ref. AU/TH/04-15/18613revB dated 27/04/16					

<b>Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements</b>				
<b>Monitoring point Ref. /description</b>	<b>Parameter</b>	<b>Limit (including units)</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
TH1 to TH15, TH17A to TH19A, TH25 and TH26* on Plan MEPP ref. AU/TH/04-15/18613revB dated 27/04/16 *Once installed in accordance with improvement condition IC6.	Methane	1 %v/v	Monthly	As per LFTGN03 (September 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency.  Record whether the ground is: waterlogged frozen snow covered
	Carbon Dioxide	no limit		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential Pressure	no limit		

Table S3.6 Particulate matter in ambient air - monitoring requirements					
Monitoring Point Ref. /Description	Parameter	Limit	Reference Period	Monitoring Frequency	Monitoring Standard or Method
20m downwind of asbestos disposal cell	Asbestos Fibres	Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	2 hours	Twice per year or every 5000 tonnes asbestos deposited, whichever is greater.	While asbestos is being deposited. <ul style="list-style-type: none"> <li>• Pumped sampling</li> <li>• 1m above ground level</li> <li>• Flow rate = 4 litres/ minute</li> <li>• Minimum sample volume = 480 litres</li> <li>• Filter pore size = 1.2µm</li> </ul> Asbestos fibre limit of detection = 0.01 fibres/ml
50m upwind of asbestos disposal cell	Asbestos Fibres		2 hours	During all downwind monitoring	
Site boundary downwind of asbestos disposal cell <sup>(1)</sup>	Asbestos Fibres		2 hours	Minimum twice per year	
MEPP <sup>(1)</sup>	Suspended particulates PM <sub>10</sub>	Not to exceed 50 µg/m <sup>3</sup> more than 35 times per year when measured as a 24 hour mean concentration		In accordance with the operator's particulate monitoring action plan dated September 2008.	In accordance with Technical guidance document M17 unless otherwise agreed.
MEPP <sup>(1)</sup>	Deposited dust	200 mg/m <sup>2</sup>		In accordance with the operator's particulate monitoring action plan dated September 2008.	In accordance with Technical guidance document M17 unless otherwise agreed.
<sup>(1)</sup> As shown on Plan MEPP ref. AU/TH/04-15/18613revB dated 27/04/16					

<b>Monitoring point Ref. /description</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring Standard or method</b>
Permanently capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Temporarily capped zone	Methane concentration	Every 12 months	

<b>Monitoring Point Ref./Description</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
Up gradient MEPP	Water level, Electrical Conductivity, Chloride, Ammoniacal Nitrogen, pH	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (<a href="http://www.gov.uk">www.gov.uk</a>)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Total Alkalinity, Magnesium, Potassium, Total Sulphates, Calcium, Sodium, Chromium, Copper, Iron, Lead, Nickel, Zinc	Annually	
	Hazardous substances	Annually for first six years of operation	
Down or cross gradient MEPP	Water level, Electrical Conductivity, Chloride, Ammoniacal Nitrogen, pH	Quarterly	
	Total Alkalinity, Magnesium, Potassium, Total Sulphates, Calcium, Sodium, Chromium, Copper, Iron, Lead, Nickel, Zinc	Annually	
	Hazardous substances detected in leachate	Annually for first six years of operation then every two years	
MEPP	Base of monitoring point (mAoD)	Annually	

**Table S3.9 Landfill gas – other monitoring requirements**

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
In waste gas monitoring boreholes or sealed leachate wells in cells for non-hazardous waste	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly until gas extraction commences	Calibrated handheld monitoring instrument	For cells or phases which have no active gas extraction. Gas extraction system shall be installed and extraction commenced once monitoring shows onset of methane production in waste at a rate that can be sustainably extracted.  Once gas extraction has commenced in a particular cell or phase, there is no longer a requirement to carry out this monitoring.
One in waste borehole per cell and/or leachate wells for separate cells for stable non reactive hazardous waste, asbestos or gypsum on landfills for non-hazardous waste	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly	Calibrated handheld monitoring instrument	None
One in waste borehole per cell and/or leachate wells for separate cells for gypsum on landfills for non-hazardous waste	Hydrogen Sulphide	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 v3.0 2010 or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of Hydrogen Sulphide shall be assessed in accordance with the gas and odour management plans.

**Table S3.9 Landfill gas – other monitoring requirements**

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
One in waste borehole or one leachate well per cell for separate cells for stable non reactive hazardous waste, asbestos or gypsum on landfills for non-hazardous waste	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 v3.0 2010 or a trace gas characterisation method agreed with the Environment Agency or such other subsequent guidance as may be agreed in writing with the Environment Agency.	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
Gas collection system at well control valve, manifolds (if applicable) and strategic points on gas system	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Gas flow rate or suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Monthly or at such other frequency as may be agreed in writing with the Environment Agency.	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken. Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertaken. Record the ambient air temperature and whether the ground is: waterlogged frozen snow covered

**Table S3.9 Landfill gas – other monitoring requirements**

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Input to microturbine or flare	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 v3.0 2010 or such other subsequent guidance as may be agreed in writing with the Environment Agency or a trace gas characterisation method agreed with the Environment Agency.	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.

**Table S3.10 Leachate – other monitoring requirements**

Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
<b>Operational Cells or Phases</b> (Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.6)			At leachate compliance point as listed in table S3.1. As specified in Environment Agency Guidance TGN02 (February 2003) and <u>risk assessments for your environmental permit (www.gov.uk)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency.	
MEPP	pH, Electrical Conductivity, Total Alkalinity, Ammoniacal Nitrogen, Chloride, COD, BOD, Cadmium, Chromium, Copper, Lead, Nickel, Iron, Arsenic, Magnesium, Potassium, Total Sulphates, Calcium, Sodium, Zinc, Manganese	Quarterly		None
MEPP	Hazardous substances	Annually		None
MEPP	Depth to base (mAoD)	Annually		None
<b>Non Operational Cells or Phases</b> (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.6)				

**Table S3.10 Leachate – other monitoring requirements**

Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	pH, Electrical Conductivity, Total Alkalinity, Ammoniacal Nitrogen, Chloride, COD, BOD, Cadmium, Chromium, Copper, Lead, Nickel, Iron, Arsenic, Magnesium, Potassium, Total Sulphates, Calcium, Sodium, Zinc, Manganese	Annually		None
MEPP	Hazardous substances	Once every four years		None
MEPP	Depth to base (mAoD)	Annually		None

**Table S3.11 Surface water – other monitoring requirements**

Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	Ammoniacal Nitrogen Chloride Suspended Solids Visual Oil and Grease pH Electrical Conductivity	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and <u>risk assessments for your environmental permit (<a href="http://www.gov.uk">www.gov.uk</a>)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency.



<b>Table S3.12 Ambient air – other monitoring requirements</b>					
<b>Monitoring Point Ref. /Description</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Ambient air along installation boundary*	Methane	100 ppmv	Monthly	Flame ionisation detector	
	Hydrogen Sulphide	10 ppb		Portable meter	
*Along 3 main sensitive azimuths: 2 in the direction of nearest housing and 1 down the prevailing wind azimuth from operational tipping area(s)					

## Schedule 4 – Reporting

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

<b>Table S4.1 Reporting of monitoring data</b>		
<b>Parameter</b>	<b>Reporting period</b>	<b>Period ends</b>
Leachate and/or groundwater level As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to air As specified by schedule 3, table S3.2	Every 12 months	31 December
Point source emission to water (other than sewer) As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by schedule 3, table S3.5	Every 3 months	31 March, 30 June, 30 September, 31 December
Particulate matter in ambient air. As required by schedule 3, table S3.6	Every 6 months	30 June, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.7	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.8	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.9	Every 3 months	31 March, 30 June, 30 September, 31 December
Trace gas monitoring	Every 12 months	31 December
Other leachate monitoring As specified by schedule 3, table S3.10	Every 12 months	31 December
Other surface water monitoring As specified by schedule 3, table S3.11	Every 12 months	31 December
Meteorological data Landfill Directive, annex III, section 2	Every 12 months	31 December
Other ambient air monitoring As specified by schedule 3, table S3.12	Every 12 months	31 December

\* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

<b>Table S4.2: Annual production/treatment</b>	
Leachate: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass. Accepted from offsite for treatment at any onsite effluent treatment plant.	Cubic metres/year
Landfill gas: combustion in flares; combustion in gas engines; Other methods of gas utilisation. Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of table S3.9 monitoring) Methane generation rate (50%ile from a representative model)	Normalised cubic metres/year  % methane v/v  m <sup>3</sup> /hr

<b>Table S4.3 Performance Parameters</b>			
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Annual total</b>	<b>Unit</b>
Energy used (including for leachate treatment)	Annually		MWh of electricity or natural gas

<b>Table S4.4 Reporting Forms</b>		
<b>Media/parameter</b>	<b>Reporting Format</b>	<b>Date of Form</b>
Leachate	Form leachate 1 or other reporting format to be agreed in writing with the Environment Agency	04/05/16
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	04/05/16
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	04/05/16
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	04/05/16
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	04/05/16
Particulate matter	Form Particulate 1 or other reporting format to be agreed in writing with the Environment Agency	04/05/16
Waste Return	Waste Return Form RATS2E	04/05/16

<b>Table S4.4 Reporting Forms</b>		
<b>Media/parameter</b>	<b>Reporting Format</b>	<b>Date of Form</b>
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	04/05/16

## Schedule 5 – Notification

This page outlines the information that the operator must provide.

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

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

### Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

<b>(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b>	
<b>To be notified within 24 hours of detection</b>	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Measures taken, or intended to be taken, to stop the emission	

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

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

## Part B to be supplied as soon as practicable

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

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

“Accident” means an accident that may result in pollution.

“Annually” means once every year.

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

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

“Background concentration” means such concentration of that substance as is present in:

For emissions to surface water, the surface water quality up-gradient of the site; or

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

For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

- (a) “Cell layout drawing” means: A drawing or drawings of the proposed new cell that illustrate(s) in sufficient detail:
- (i) the location of the new cell on the site;
  - (ii) the proposed level (Above Ordnance Datum) of the base of the excavation;
  - (iii) the proposed finished levels of all containment and leachate drainage layers;
  - (iv) the positions of leachate management infrastructure; and
  - (v) the positions of landfill gas infrastructure (if appropriate).
- (b) A detailed written explanation of any minor design changes from the most recently approved cell that result from the new cell layout. This would include, for example:
- (i) changes to slope length and gradient within the cell;
  - (ii) new leachate or landfill gas infrastructure construction design;
  - (iii) slope stability issues such as new basal excavation level; and/or
  - (iv) depth of waste.

“Construction Proposals” means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the New Cell or Landfill Infrastructure.

“CQA Validation Report” means the final “as built” construction and engineering details of the New Cell or of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;

Plans showing the location of all tests;

“As-built” plans and sections of the works;

Copies of the site engineer’s daily records;

Records of any problems or non-compliances and the solution applied;

Any other site specific information considered relevant to proving the integrity of the New Cell or Landfill Infrastructure;

Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

“Emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675. Words and expressions used in this permit which are also used in those Regulations have the same meanings as in those Regulations.

“Emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“Exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

“Hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675, schedule 22 and listed in [risk assessments for your environmental permit \(www.gov.uk\)](http://www.gov.uk).

"Inert waste" means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.

“Landfill Infrastructure” means any specified element of the:

- permanent capping;
- temporary capping (i.e. engineered temporary caps not cover materials);
- leachate abstraction systems;
- leachate transfer, treatment and storage systems;
- surface water drainage systems;
- leachate monitoring wells;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;
- landfill gas management systems;
- lining within the installation

within the site.

“Liquids” means any liquid other than leachate within the engineered landfill containment system.

“LFTGN 05” means Environment Agency Guidance for monitoring enclosed landfill gas flares.

“LFTGN 07” means Environment Agency Guidance on monitoring landfill gas surface emissions.

“LFTGN 08” means Environment Agency Guidance for monitoring landfill gas engines.

“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.

“Medicinal product” means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) or their predecessors under the Medicines Act 1968, section 130.



“M2” means Environment Agency Guidance Monitoring of stack emissions to air.

“MEPP” Monitoring and extraction point plan, required by condition 4.2.2(h) to specify extraction points and routine monitoring locations.

“New Cell” means any new cell, part of a cell or other similar new area of the site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- permanent geophysical leak location system;
- leak detection layer;
- sub-grade;
- barriers;
- liners;
- leachate collection system;
- leachate abstraction system;
- separation bund/layer;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the New Cell.

“No impact” means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

“Pests” means Birds, Vermin and Insects.

“Previous year” means the 12 month period preceding the month the annual report is submitted in.

“Quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“Relevant waste acceptance procedures” means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“Relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“Review of the Hydrogeological Risk Assessment” means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the EP Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the EP Regulations.

‘Sustainably extracted’ means where suction can be applied to the extraction wells such that a flow rate of landfill gas, with a methane content capable of either being combusted, or treated by bio-oxidation, can be extracted without increasing the risk of air ingress to the waste or inducing aerobic degradation within the waste.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares LFTGN 05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN 08.

