

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Drax Power Limited

Barlow Ash Mound Disposal Site
Drax Power Station
Selby
North Yorkshire
YO8 8PQ

Variation application number

EPR/BW9395IF/V003

Permit number

EPR/BW9395IF

Barlow Ash Mound Disposal Site

Permit number EPR/BW9395IF

Introductory note

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

The following gives notice of the variation and consolidation of this environmental permit. We have issued this variation to consolidate the original permit and subsequent variations and to update some of the conditions following a statutory review of permits in the landfill sector. We have also converted the permit into the current EPR permit format 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 your permit to reflect current legislation and best practice. These changes principally relate to:

- 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).

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

The main features of the installation are as follows.

Barlow Mound is operated by Drax Power Limited and is located approximately 1km east of the village of Barlow near Selby, North Yorkshire. The Mound has been established for over 30 years principally for the disposal of Pulverised Fuel Ash (PFA) arising from Drax Power Station, which is a biomass and coal fired power station. The Mound covers an area of approximately 160 ha. The installation is to be operated as an engineered non-hazardous landfill for the disposal of PFA, desulphogypsum, waste-water treatment plant residue. The maximum quantities of waste deposited at the installation in any one-year shall not exceed 1,750,000 tonnes, of non-hazardous waste.

As the installation only accepts wastes which are stable non-reactive, there is no requirement for an active landfill gas management system. A surface water management system is in place, this comprises of a surface water drainage and collection system, which allows for porewater from under the mound and surface water to be circulated around the site leading to the evaporation lagoon. Barlow Mounds Environmental Management System (EMS) is an integral part of the Drax Power Station's EMS and is compatible with ISO 14001 certification.

Status log of the permit		
Description	Date	Comments
Application BW9395IF received (EPR/BW9395IF/A001)	0705/2004	
Permit determined BW9395IF EPR/BW9395IF	29/03/2007	.
Variation Application EPR/BW9395IF/V002 Received	27/08/2010	
Variation determined	06/09/2010	

Status log of the permit		
Description	Date	Comments
EPR/BW9395/V002		
Environment Agency Landfill Sector Review Permit reviewed Variation determined EPR/BW9395IF/V003 Permit EPR/BW9395IF	30/11/2015	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 regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/BW9395IF

Issued to

Drax Power Limited (“the operator”)

whose registered office is

Drax Power Station

Selby

North Yorkshire

YO8 8PH

company registration number 04883589

to operate a regulated facility at

Barlow Ash Mound Disposal Site

Drax Power Station

Selby

North Yorkshire

YO8 8PH

to the extent set out in the schedules.

The notice shall take effect from 30/11/2015

Name	Date
Philip Lamb	30/11/2015

Authorised on behalf of the Environment Agency

Schedule 1

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 your permit may contain more changes than this where your 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 allow treatment activity, where necessary.
2.7.3	Added to separately identify the waste types and quantities that can be accepted for restoration.
3.1.1	Generic condition imposed on all activities to simplify sub-conditions
3.1.3 to 3.1.4	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.
	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.
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(g)	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.
Schedules	
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	List of wastes relevant for PFA LF from 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 S4.1	Amended to only require regular reports of information that relate to compliance limits.
Table S4.2	Amended to require reports of PFA treated and reused
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 substance Medicinal product Previous year

Condition	Description of change
	Waste acceptance criteria Waste acceptance procedure

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BW9395IF

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BW9395IF/V003 authorising,

Drax Power Limited (“the operator”),

whose registered office is

Drax Power Station

Selby

North Yorkshire

YO8 8PH

company registration number 04883589

to operate an installation at

Barlow Ash Mound Disposal Site

Drax Power Station

Selby

North Yorkshire

YO8 8PH

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

Name	Date
Philip Lamb	30/11/2015

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 29th March 2007 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.

1.3 Energy efficiency

- 1.3.1 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 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 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.

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").

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in red 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.

2.4 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, table S2.1 and

- (b) they are non- hazardous waste or gypsum waste and
- (c) they are not liquid waste (including waste waters but excluding sludge and carrier waters, and
- (d) all the relevant waste acceptance procedures have been completed, and
- (e) they fulfil the relevant waste acceptance criteria, and
- (f) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and
- (g) 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.

2.7.2 For the following activities referenced in schedule 1, table S1.1 (A2) waste shall only be accepted for treatment 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.

2.7.3 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.

2.7.4 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 The operator shall visually inspect waste at the point of dispatch and shall be satisfied that the waste conforms to the requirements of condition 2.7.1.

2.7.6 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.

2.7.7 The total quantity of waste that shall be deposited or recovered in the landfill shall be limited by the post-settlement levels shown on drawing ESID 6.

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

2.7.9 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.

2.8 Closure and aftercare

2.8.1 The operator shall maintain a closure and aftercare management plan.

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 S3.1.
- 3.1.3 The operator shall prevent the input of any hazardous substances from the activities into groundwater.
- 3.1.4 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.
- 3.1.5 For the following activities referenced in schedule 1, table S1.1 (A2). Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on systematic appraisal of the risk of contamination.

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.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the 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.

3.4.2 The operator shall:

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

3.5 Monitoring

3.5.1 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) Point source emissions specified in tables S3.1;
- (b) Groundwater specified in tables S3.2 and S3.3; and
- (c) Surface water specified in table S3.4.

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

3.5.3 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.

unless otherwise agreed in writing with the Environment Agency.

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) leachate quality and quantities;
 - (iii) waste types and quantities;
 - (iv) 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 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 3.5.3 other than those submitted as part of a CQA validation report;
- (e) the volume of waste received (reported in cubic metres) since previous report i.e. the additional volume of the landfill void that is occupied by waste;
- (f) a calculation of the remaining capacity (reported in cubic metres) derived from records of the most recent topographic survey or volume of waste received since previous report.
- (g) 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 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 (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 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.

4.3.4 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 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.

Schedule 1 – Operations

Table S1.1 activities				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	D5 –Specially engineered landfill; R5 - the recycling or reclamation of inorganic material 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	-	Section 5.4, Part A(1)(b)(iii), Treatment of non-hazardous slags and ashes	Crushing, screening or other physical grading of the waste with a capacity >75tonnes/day prior to export from the site	Applies to the handling of the waste prior to waste export for re-use.
Directly Associated Activities				
A3	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.
A4	N/A		Water discharges to surface water system Evaporative Lagoon	From surface water management system to point of entry to surface water system evaporative Lagoon.
A5	N/A		Storage of fuel for operation of plant and equipment.	Fuel storage tank.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to questions, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10 & 2.11 in part B of the Application Form (Excluding answers to questions B2.2.47, B2.2.48 & B2.2.57 relating to landfill gas monitoring)	07 May 2004
Response to Request to Further Information dated 25 th July 2006.	All Parts	01 August 2006
Additional information submitted regarding surface water monitoring point SWMP2 – dated 20/10/2006	All parts (including drawing number SCH4.1ag)	20 October 2006
Revised Surface Water and Groundwater monitoring location plan – Figure 1ag.	Response to question 1 detailing process control.	23 February 2007

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
2c	The Operator shall compile into a report a minimum of 12 months analysis of relevant parameters specified in Table S4.3 from samples of surface water taken from the Evaporative Lagoon. This report shall fully determine the existing background concentrations within the Evaporative Lagoon, from which the operator shall derive surface water discharge compliance and assessment levels for selected parameters specified in Table S4.1. This report shall be submitted to the Agency for approval.	1 st February 2017
3	The operator shall submit to the Environment Agency in writing for approval a restoration plan for the site which includes waste quantities, waste types and waste acceptance criteria for wastes for restoration.	4 th March 2016
4	The operator shall carry out an assessment of the impact on the environment of pulverised fuel ash waste resulting from a combustion process that utilises SCR or SNCR NOx abatement. The assessment shall be carried out following the methodology agreed in accordance with pre operational condition PO1 in table S1.4. A report on the findings of the assessment shall be submitted in writing to the Environment Agency for approval	12 months from the first deposit in the landfill of pulverised fuel ash waste resulting from a combustion process that utilises SCR or SNCR NOx abatement or other period agreed in writing with the Environment Agency.
5	The operator shall submit to the Environment Agency in writing for approval a report setting out the proposed methodology for assessing the impact on the environment of the deposit of pulverised fuel ash waste resulting from the combustion of biomass (see Note 1). The proposals shall include timescales for	4 th March 2016

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	implementation.	
6	The operator shall carry out an assessment of the impact on the environment of pulverised fuel ash waste resulting from the burning of biomass (see Note 1). The assessment shall be carried out following the methodology agreed in accordance with improvement condition IC5. A report on the findings of the assessment shall be submitted in writing to the Environment Agency for approval.	To the agreed timescales in the approved proposals submitted in accordance with IC5.

Note 1: When the fuel burned in any individual combustion unit contains > 15% biomass (or other amount agreed in writing with the Environment Agency).

Table S1.4 Pre-operational measures for future development

Reference	Operation	Pre-operational Measures
PO1	Deposit of pulverised fuel ash waste resulting from a combustion process that utilises SCR or SNCR NOx abatement.	The operator shall submit to the Environment Agency in writing for approval a report setting out the proposed methodology for assessing the impact of this waste on the environment.

Table S1.5 Annual waste input limits

Category	Limit Tonnes/ Year
Non-hazardous waste	1,750,000
Gypsum waste	
Waste for restoration	As agreed in accordance with improvement condition 3 in table S1.3

Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous Pulverised Fuel Ash waste	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 01	wastes from mineral excavation
01 01 02	wastes from mineral non-metalliferous excavation
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
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 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
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

Table S2.2 Permitted waste types accepted for treatment	
Waste code	Description
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash

Table S2.2 Permitted waste types accepted for treatment	
Waste code	Description
10 01 03	fly ash from peat and untreated wood

Table S2.3 Permitted waste types for restoration	
Waste code	Description
As agreed in accordance with improvement condition 3 in table S1.3	

Schedule 3 – Emissions and monitoring

Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
SWMP 2 Barlow Phase 2 discharge to surface water ditch in Phase 1 as shown in Figure 1ag.	To be agreed in accordance with improvement condition Table S1.3 [2c]	Surface water	To be agreed in accordance with improvement condition Table S1.3 [2c]	Spot Sample	Monitoring only required when surface water is being discharged from the site	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003) and Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, v 2.1, Dec 2011 or Annex D v2.3 Sept 2014 or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
BH01, BH04, BH05 as shown on Figure 1ag	Arsenic	85 µg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011 or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Abstraction borehole 1 as shown on Figure 1ag	Boron	1000 µg/l			
	Cadmium	1 µg/l			
	Molybdenum	240 µg/l			
	Potassium	30 mg/l			
	Sulphate	430 mg/l			

Table S3.3 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
Up, down or cross gradient MEPP	Water level, electrical conductivity, sulphate, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance TGN02 ‘Monitoring of Landfill Leachate, Groundwater and Surface Water’ (February 2003), Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Total alkalinity, DOC, aluminium, arsenic, antimony, barium, boron, cadmium, calcium, total chromium, copper, fluoride, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, sodium, tin, vanadium, zinc	Annually	
MEPP	Base of monitoring point (mAoD)	Annually	

Table S3.4 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 Horizontal Guidance Note H1 – Environmental Risk Assessment for permits, Annex J3, version 2.1, Dec 2011 or Annex D v2.3 Sept 2014 or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data		
Parameter	Reporting period	Period ends
Point source emission to water (other than sewer) As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.2	Every 3 months	31 March, 30 June, 30 September, 31 December
Other groundwater monitoring As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Other surface water monitoring As specified by schedule 3, table S3.4	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.

Table S4.2: Annual production/treatment	
Leachate: Disposed of off site; Recirculated into the waste mass.	Cubic metres/year
Water: Used on site Disposed of off site Removed off site for reuse	Cubic metres/year
Pulverised fuel ash: Treated (by crushing screening or other physical grading). Excavated and treated to meet a Quality Protocol and transferred from disposal site for reuse. Excavated and/or treated and transferred from disposal site for reuse (non Quality Protocol)	Tonnes/year

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

Table S4.4 Reporting Forms		
Media/parameter	Reporting Format	Date of Form
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	04/09/2015
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	04/09/2015
Waste Return	Waste Return Form RATS2E	
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	

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	

(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	
To be notified within 24 hours of detection	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

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

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

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

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

Part B to be 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.	

Name*	
Post	
Signature	
Date	

* 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 property” has the meaning in Annex III of the Waste Framework Directive.

“Hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675, schedule 22 and listed in our Hydrogeological risk assessment guidance, annex J to our H1 risk assessment guidance.

“Hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“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.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“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.

"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

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

"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.

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

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

"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

Where the following terms appear in the waste code list in Tables S2.1, S2.2 & S2.3 they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008;

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘polychlorinated biphenyls and polychlorinated terphenyls’ (‘PCBs’) means PCBs as defined in Article 2(a) of Council Directive 96/59/EC’.

Article 2(a) says that ‘PCBs’ means:

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight;

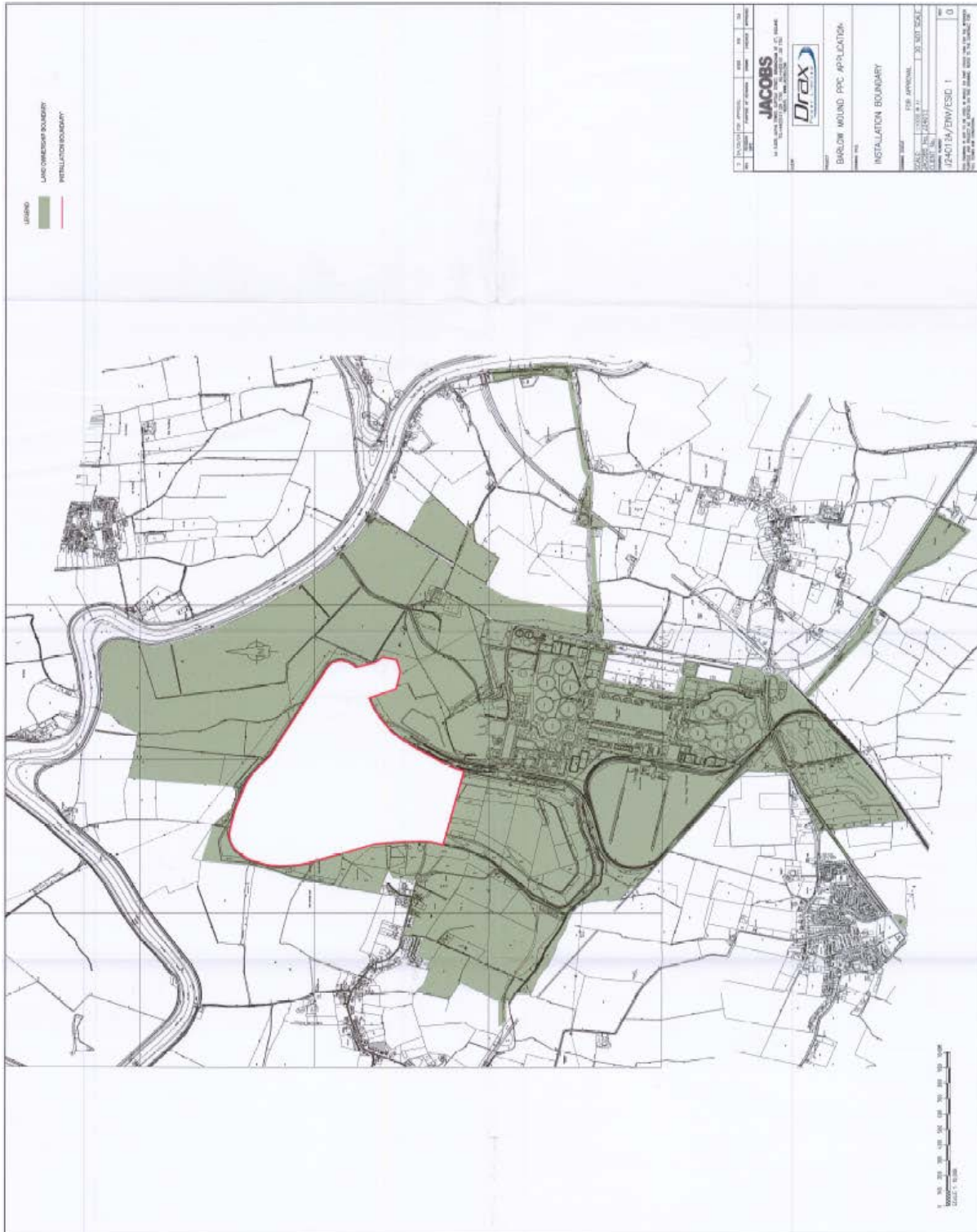
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste;

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste;

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan



END OF PERMIT

Permit Number: EPR/BW9395IF

Operator: Drax Power Limited

Facility: Barlow Ash Mound

Form Number: Groundwater1 / 04/09/2015

Reporting of groundwater monitoring for the period from to

Monitoring Point	Substance / Parameter	Trigger level	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]

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

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed

Date.....

(Authorised to sign as representative of Operator)