ENVIRONMENT AGENCY

Permit with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

Davyhulme WwTW Sludge Treatment Facility

United Utilities Water PLC
Urmston
Manchester
M41 7JB

Permit number

HP3931LJ

Davyhulme WwTW Sludge Treatment Facility
Permit Number HP3931LJ

Introductory note

This introductory note does not form a part of the permit

The main features of the installation are as follows.

This permit is for Davyhulme Wastewater Treatment Works (WwTW) to operate the sludge treatment at the facility. The wastewater treatment works is bounded by the Manchester Ship Canal to the north west and to the north there is open land. Areas owned and utilised by United Utilities Water PLC as part of the wastewater treatment process lie to the south of the site, beyond which lies residential properties. To the east of the site is the Trafford Park Retail Site and residential properties.

The sludge is collected stored and screened and some of the water is removed before being transferred to digesters where the sludge is gently heated. The heat encourages the biological breakdown of the sewage sludge. The process produces biogas, which is mostly methane, which is subsequently combusted to produce heat for the digestion process and produce electricity for the WwTW or for export to the national grid.

The sludge is then pumped to the Mersey Valley Processing Centre where it is pressed to remove more water turning it from sludge to a cake. From here, it is sent to for recovery into agriculture or for disposal by incineration.

There are no Special Areas of Conservation, Special Protection Areas or SSSI's within 2km of this site.

The main emissions from this site are methane from the digesters and emissions to air of Oxides of Nitrogen, Carbon Monoxide and sulphur dioxide from the combustion plant. Emission limits have been set in the permit to control emissions from the Combined Heat and Power Plant. There are no emissions to water from this installation. There are emissions from the installation to the off-installation waste water treatment works, which comprise surface water run-off, liquors from the sludge treatment process, blow down from the combustion plant and condensate from pipework and combustion plant.

United Utilities operate an Environmental Management System which is certified to the ISO 14001 standard.

Status Log of the permit		
Detail	**Date**	**Response Date**
Application HP3931LJ	Duly made 30/06/06	
Request for further information	23/08/06,	22/09/06, 29/09/07, 23/10/06
	08/09/06,	22/09/06, 29/09/06
	28/09/06,	25/10/06
	29/09/09,	16/10/06
	06/10/06,	09/10/06
	19/10/06,	25/10/06
	19/10/06,	26/10/06
	27/10/06,	06/12/06,
	07/11/06,	23/11/06, 11/12/06
	18/12/06,	02/01/07
	17/08/07	31/08/07
	04/09/07	15/10/07
Additional information received	09/02/07	
Additional information received	30/04/07	
Additional information received	29/05/07	
Additional information received	28/08/07	
Additional information received	15/10/07	
Permit issued	24/10/07	

Other PPC permits relating to this installation		
Operator	**Permit Number**	**Date of Issue**
United Utilities Industrial Ltd	EP3031LB	24/10/07

Superseded or Partially Superseded Licences/Authorisations/Consents relating to this installation			
Holder	**Reference Number**	**Date of Issue**	**Fully or Partially Superseded**
United Utilities Water PLC	WML 0996	27 March 1998	Partially

The waste management licence shall cease to have effect if and to the extent that treatment, keeping or disposal of waste authorised by the licence is authorised by this permit.

Other existing Licences/Authorisations/Registrations relating to this site		
Holder	**Reference Number**	**Date of Issue**
United Utilities Water PLC	WML 0996	27 March 1998

End of Introductory Note

Permit

Permit number
HP3931LJ

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No 1973) hereby authorises
United Utilities Water PLC ("the operator"),

whose registered office is

Haweswater House

Lingley Mere Business Park

Lingley Green Avenue

Great Sankey

Warrington

Cheshire

WA5 3LP

company registration number **2366678**

to operate an installation at:
Davyhulme Waste Water Treatment Works
Urmston
Marlborough
Manchester
M41 7JB

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

Signed	Date
	24th Oct 2007

J M Ingram

Authorised to sign on behalf of the Agency

Conditions

1 Management

1.1 General management

1.1.1 The activities shall be managed and operated:

(a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances and those drawn to the attention of the operator as a result of complaints; and

(b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.

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.

1.2 Accidents that may cause pollution

1.2.1 The operator shall:

(a) maintain and implement an accident management plan;

(b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;

(c) make any appropriate changes to the plan identified by a review.

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 4 years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further 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 4 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 appropriate further 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 4 years whether changes to those measures should be made; and

(c) take any further appropriate measures identified by a review.

1.6 Site security

1.6.1. Site security measures shall prevent unauthorised access to the site, as far as practicable.

2. Operations

2.1 Permitted activities

2.1.1 The operator is authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.1.2 Where there are wastes on site that are not subject to this permit then the wastes subject to the activities authorised under condition 2.1.1, shall be clearly identified.

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 2 to this permit, excluding the area shaded in green on the site plan that represents the extent of the installation covered by that of the other operator of the installation.

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 Agency.

2.3.2 No raw materials or fuels listed in schedule 3 table S3.1 shall be used unless they comply with the specifications set out in that table.

2.3.3 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 3 tables S3.2 and S3.3 ; and

(b) it conforms to the description in the documentation supplied by the producer and holder.

(c) it is only processed in the activity specified in Table S1.1 of Schedule 1.

2.3.4 Records shall be kept of all waste accepted onto the site.

2.3.5 The Operator shall ensure that where waste produced at the Permitted Installation is sent to a waste recovery or disposal facility, the facility in question is provided with the following information, prior to receipt of the waste:

- The nature of the process producing the waste
- The composition of the waste
- The handling requirements of the waste
- The hazard classification associated with the waste
- The waste code of the waste

2.3.6 The Operator shall ensure that where waste produced at the Permitted Installation(s) is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Off-site conditions

2.4.1 There are no off-site conditions under this section.

2.5 Improvement programme

2.5.1 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 Agency.

2.5.2 Except in the case of an improvement which consists only of a submission to the Agency, the operator shall notify the Agency within 14 days of completion of each improvement.

2.6 Pre-operational conditions

2.6.1 There are no pre-operational conditions in this permit.

2.7 Closure and decommissioning

2.7.1 The operator shall maintain and operate the activities so as to prevent or where that is not practicable, to minimise, any pollution risk on closure and decommissioning.

2.7.2 The operator shall maintain a site closure plan which demonstrates how the activities can be decommissioned to avoid any pollution risk and return the site to a satisfactory state.

2.7.3 The operator shall carry out and record a review of the site closure plan at least every 4 years.

2.7.4 The site closure plan (or relevant part thereof) shall be implemented on final cessation or decommissioning of the activities or part thereof.

2.8 Site protection and monitoring programme

2.8.1 The operator shall, within 4 months of the issue of this permit, submit a site protection and monitoring programme.

2.8.2 The operator shall implement and maintain the site protection and monitoring programme and shall carry out and record a review of it at least every 4 years.

3. Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 4 tables S4.1, S4.2 and S4.3.

3.1.2 The limits given in schedule 4 shall not be exceeded.

3.2 Transfers off-site

3.2.1 Records of all the wastes sent off site from the activities, for either disposal or recovery, shall be maintained.

3.3 Fugitive emissions of substances

3.3.1 Fugitive emissions of substances (excluding odour, noise and vibration) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.3.2 Litter or mud arising from the activities shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures have been used to prevent or where that is not practicable to minimise, the litter and mud.

3.3.3 Litter or mud arising from the activities shall be cleared from affected areas outside the site as soon as practicable.

3.3.4 All liquids, 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.

3.4 Odour

3.4.1 Emissions from the activities shall be free from odour at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures to prevent or where that is not practicable to minimise the odour.

3.5 Noise and vibration

3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause annoyance outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures] to prevent or where that is not practicable to minimise the noise and vibration.

3.6 Monitoring

3.6.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake monitoring for the parameters, at the locations and at not less than the frequencies specified in the following tables in schedule 4 to this permit:

(a) point source emissions specified in table S4.1, S4.2 and S4.3

(b) process monitoring specified in table S4.4.

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 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Agency.

3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 4 tables S4.1, S4.2 and S4.3 unless otherwise specified in that schedule.

3.6.5 Within 10 months of the issue of this permit (unless otherwise agreed in writing by the Agency) the site reference data identified in the site protection and monitoring programme shall be collected and submitted to the Agency.

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 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 site protection and monitoring programme.

4.1.2 Any records required to be made by this permit shall be supplied to the Agency within 14 days where the records have been requested in writing by the Agency.

4.1.3 All records required to be held by this permit shall be held on the installation and shall be available for inspection by the Agency at any reasonable time.

4.2 Reporting

4.2.1 A report or reports on the performance of the activities over the previous year shall be submitted to the Agency by 31 January (or other date agreed in writing by the Agency) 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 assessment of the impact of the emissions submitted with the application;

(b) where the operator's management system encompasses annual improvement targets, a summary report of the previous year's progress against such targets;

(c) the annual production /treatment data set out in schedule 5 table S5.2;

(d) the performance parameters set out in schedule 5 table S5.3 using the forms specified in table S5.4 of that schedule; and

(e) details of any contamination or decontamination of the site which has occurred.

4.2.2 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the 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 5 table S5.1;

(b) for the reporting periods specified in schedule 5 table S5.1 and using the forms specified in schedule 5 table S5.4 ; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.3 A summary report of the waste types and quantities accepted and removed from the site shall be made for each quarter. It shall be submitted to the Agency within one month of the end of the quarter and shall be in the format required by the Agency.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding 4 years, submit to the Agency, within 6 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.

4.2.5 All reports and notifications required by the permit shall be sent to the Agency using the contact details supplied in writing by the Agency.

4.2.6 The results of reviews and any changes made to the site protection and monitoring programme shall be reported to the Agency, within 1 month of the review or change.

4.3 Notifications

4.3.1 The Agency shall be notified without delay following the detection of:

(a) any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution;

(b) the breach of a limit specified in the permit;

(c) any significant adverse environmental effects.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 6 to this permit within the time period specified in that schedule.

4.3.3 Prior written notification shall be given to the Agency of the following events and in the specified timescales:

(a) as soon as practicable prior to the permanent cessation of any of the activities;

(b) cessation of operation of part or all of the activities for a period likely to exceed 1 year; and

(c) resumption of the operation of part or all of the activities after a cessation notified under (b) above.

4.3.4 The Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.5 Where the 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 Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.6 The Agency shall be notified within 7 days of any changes in technically competent management and the name of any incoming person together with evidence that such person has the required technical competence.

4.3.7 The Agency shall be provided, within 14 days of the operator or any relevant person being convicted of a relevant offence, (unless such information has already been notified to the Agency), with details of the nature of the offence, the place and date of conviction, and the sentence imposed.

4.3.8 The Agency shall be notified within 14 days of the operator and/or any relevant person lodging an appeal against a conviction for any relevant offence and of the outcome when the appeal is decided.

4.3.9 The Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

(a) any change in the operator's trading name, registered name or registered office address;

(b) any change to particulars of the operator's ultimate holding company (including details of an ultimate holding company where an operator has become a subsidiary); and

(c) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 7 shall have the meaning given in that schedule.

Schedule 1 - Operations

Table S1.1 activities		
Activity listed in Schedule 1 of the PPC Regulations	**Description of specified activity and WFD Annex IIA and IIB operations**	**Limits of specified activity and waste types**
S5.3 A1 (c)(i)	D8: Biological treatment (anaerobic Digestion) of sludge for the purposes of disposal.	From receipt of the waste to the transfer to storage, including the digestion of the waste which is limited to the following plant:- 8 Primary digesters; 12 Secondary digesters. Waste types to be as specified in Schedule 3 tables S3.3.
S5.3 A1 (c)(ii)	D9: Physical and chemical treatment of sludge for the purposes of disposal	From receipt of the waste to the transfer to storage including the treatment of the waste which is limited to the following plant:- 4 Gravity belt thickeners; 3 Sludge Screens; 6 Sludge strain presses; 3 Centrifuges (for contingency purposes only) Waste types to be as specified in Schedule 3 tables S3.3.
S 1.1 A1(b)(iii)	The combustion of fuel (biogas) for the purpose of generating electricity and heat for use within the installation.	From receipt and storage of Biogas to the delivery of heat to the digesters and electricity to the Wastewater Treatment Works and National Grid. The combustion units are limited to 4 Bio-gas engines and 2 duel fuel boilers with a gross thermal input of approximately 34 MW.
Directly Associated Activity		
Combustion of standby gas oil	Burning of gas oil (standby fuel) for use in the 2 duel fuel boilers.	From receipt of gas oil, combustion of fuel and delivery of heat to the digesters. Gas oil is only to be used where where there is either • insufficient biogas available for use; • poor quality biogas being produced; or • operational malfunction which prevents biogas usage
United Utilities Industrial Limited ATF Plant	Storage and transfer of non-hazardous waste	From receipt of non hazardous waste from the ATF Plant within the installation to treatment in the installation to final discharge.
Gas Flare	Flaring of excess bio-gas	From receipt of gas at flare, to combustion of gas and discharge of combustion products. Biogas only to be flared where it is unable to be used for the production of heat and energy.
Storage of waste	Storage of waste prior to and after treatment.	Storage of sludge before and after treatment prior to despatch off-site. Waste types and quantities specified in Table S3.2.
Raw material storage	Storage of raw materials	From receipt of raw materials to dispatch for use

Use of centrifuge	Centrifugation of sludge	Centrifugation of sludge for the purpose of recovery

Table S1.2 Operating techniques

Description	Parts	Date Received
Application	The response to section 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.6, 2.1.7, 2.1.8, 2.1.10, 1.1.11, 2.1.12, 2.1.21, 2.1.22, 2.1.23, 2.1.24 and 2.2 in the Application.	30/06/06
Letter from Amanda Molyneux of United Utilities Water PLC dated 22/09/06. RE: Agency letter dated 23/08/06	Answers 2, 3, 5, 6, 10, 11	26/09/06
Letter from Amanda Molyneux of United Utilities Water PLC dated 22/09/06. RE: Agency letter dated 08/09/06	Answers 8 and 13 and Davyhulme answers 1, 2, 3 and 4	26/09/06
Letter from Amanda Molyneux of United Utilities Water PLC dated 29 September 2006	Answers for Davyhulme only 1, 2, 3, 4, 5 and 6	29/09/06
Letter from Amanda Molyneux of United Utilities Water PLC dated 16 October 2006	Answers 1 and 3 only relating to boiler run times and contingency.	1610/06
Letter from Amanda Molyneux of United Utilities Water PLC dated 25 October 2006	Responses to parts 4 and 6and the response to Davyhulme only	25/10/06
Letter from Amanda Molyneux of United Utilities Water PLC dated 23 November 2006	All	23/11/06
Letter from Amanda Molyneux of United Utilities Water PLC dated 6 December 2006	Actions 1-3, 5 and 7 for Davyhulme only	06/12/06
Email from Amanda Molyneux of United Utilities Water PLC dated 11 December 2006	Answers for Davyhulme only	11/12/06
Email from Amanda Molyneux of United Utilities Water PLC dated 02 January 2007	Answers relating to Davyhulme only	02/01/07
Amendments to application submitted on the 30/04/07	Amendments to the site plans as identified in the additional information	30/04/07
E-mail from Amanda Molyneux of United Utilities Water PKC dated 15/10/07	Amendment to drainage plan	15/10/07

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IP1	The Operator shall review their current Odour Management Plan, taking into consideration Section 2.2.6 of the Agency Sector Guidance Note IPPC S5.06 dated December 2004, Agency Horizontal Guidance Note H4 dated October 2002 and Part III of DEFRA's Code of Practice on Odour Nuisance from Sewage treatment Plants, dated 2006. Upon completion of the review, the updated Plan shall be submitted to the Agency for approval in writing. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the Plan. The Plan shall be implemented by the operator unless otherwise agreed in writing by the Agency.	31/10/08
IP2	The Operator shall develop a written Site Closure Plan with regard to the requirements set out in Section 2.11 of the Agency Guidance Note IPPC S5.06, dated December 2004. Upon completion of the plan, a summary of the document shall be submitted to the Agency in writing for approval.	31/10/09
IP3	The operator shall develop and implement a Competence and Training Plan in accordance with paragraphs 3-7 of Section 2.3 of IPPC Sector Guidance Note dated December 2004. Upon completion of the plan, a summary of the document shall be submitted to the Agency for approval in writing.	30/04/08
IP4	The operator shall review the design and construction of the gas flare at the installation and detail any necessary work to ensure it is "enclosed" and in accordance with LFTGN 05 – Guidance for Monitoring Enclosed Landfill Gas Flares dated September 2004. The operator shall submit where available the design and construction details of the flare to the Agency for approval and detail, if found necessary, the work required to ensure it is compliant with the above standard. The notification of requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the details. Any proposed improvements shall be implemented by the Operator unless otherwise agreed in writing by the Agency.	31/10/08
IP5	The operator shall undertake a review of the condition of all the sub-surface pipe work and storage measures including sumps, storage tanks, vessels and lagoons (but excluding primary and secondary digester tanks and their associated pipework and the installation drains) in relation to their potential risk to cause fugitive emissions to surface and ground water having regard to the requirements of Section 2.2.5 of the Agency Guidance Notice IPPC S5.06 dated December 2004 The review shall highlight the need or otherwise to undertake further investigations and intrusive testing to provide confirmation of an individual asset's condition or the associated ground. Where it is identified as necessary, the Operator shall submit proposals for further investigations to be carried out, along with timescales proposed for carrying out the investigation. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the review The investigations shall be carried out in accordance with the proposed timescales unless otherwise agreed in writing by the Agency, the results of which shall be submitted in writing to the Agency.	31/07/08

IP6	A written plan shall be submitted to the Agency detailing proposals for a monitoring programme for the detection of leaks from the surface and sub-surface infrastructure including tanks, sumps, pumps, digesters and the associated pipe work. The proposals shall include: • Frequency and timescale for performing the detection monitoring programme • Methods and indicators to be used in detecting and assessing any leaks • Identification of remedial actions to be taken upon identification of leaks The plan shall also detail enabling works required to allow monitoring to take place, the justification for employing the methods, frequencies and actions chosen. The notification of conditions 2.5.2 shall be deemed to have been complied with on submission of the plan. The monitoring programme shall be implemented by the operator unless otherwise agreed with the Agency. Following the implementation of the monitoring, the Operator shall submit the results obtained from the monitoring and a proposed action plan in the event of the monitoring showing pollution.	30/04/09
IC7	The Operator shall install continuous monitoring at a suitable point after the gas holder to enable the monitoring of the gas quality for hydrogen sulphide.	30/04/08
IC8	A written procedure shall be submitted to the agency detailing the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation in accordance with condition 3.6.3. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure. The procedure shall be implemented by the operator unless otherwise agreed in writing by the Agency.	30/04/08

IC9	The operator shall develop a Spillage Plan which shall include:
	• a risk assessment of each storage tank and determining the degree of containment of the largest vessel volume tank within the installation and the risk of any environmental impact should a catastrophic fail occur above ground
	• Assessing the containment of accidental spillage within the installation and any risk of environmental impact
	• Undertaking a level survey for the whole of the installation and produce a plan showing the topography of the installation
	• Producing a scaled surfacing plan of the installation which includes
	  • Type of material used in surface construction
	  • Condition of impermeable surfaces providing containment.
	  • Construction details and extent of containment of impermeable areas and
	  • Location and destination of drainage serving impermeable areas
	• where the above risk assessments identify an unacceptable risk of pollution, a programme of works shall be submitted to reduce the risk to acceptable levels, along with a timetable to implement such measures.
	Upon completion the Spillage plan shall be submitted to the Agency. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.
	
	The Operator shall implement the plan in accordance with the proposed timetable unless otherwise agreed in writing with the Agency.
		31/10/08

IC10	The Operator shall review the level of NOx, CO, total VOCs and non methane VOCs emissions following completion of the monitoring exercise to determine actual values for the releases to air required by condition 3.6.1, and SO_2 either by confirmation of the sulphur content of the fuels (by analysis) burned in the processes, or by analysis of the levels in the discharge to air. The Operator shall use this detailed release data to establish the impact on air quality through the use of an appropriate air dispersion model. The results of the review and the modelling shall be submitted to the Agency in a written report with an assessment of the significance of the impacts using the Agency Horizontal Guidance Note H1 significance criteria.	31/10/08
IC11	The Operator shall undertake a review to identify all options for reducing the emissions to air to at least the benchmark standards in the Agency Technical Guidance Note for Combustion and the Guidance for monitoring landfill gas engine emissions (LFTGN 08), and to ensure that the releases to air do not result in a significant contribution to an exceedence of an Air Quality Standard, Objective or European Union Limit Value. Where an exceedence of an EU limit Value is predicted and the operations would provide a significant contribution to the exceedence then the review shall assess whether it is necessary to implement measures beyond indicative BAT in order to ensure that the contribution is minimised. The review shall include, but not be limited to, the primary and secondary measures for the reduction of the relevant pollutants listed in the Agency Technical Guidance Note for Combustion and the Guidance for monitoring landfill gas engine emissions (LFTGN 08), identification of the most appropriate stack height for dispersion of the waste gases and either pre-treatment of fuel or abatement of releases to air post combustion as appropriate. Where measures can be undertaken to limit the impact on air quality in the short term whilst long term solutions are implemented then the report should include proposals for both short term and long term measures as appropriate. The operator shall submit a written report detailing the elements of the review and its conclusions and shall include a programme for implementation of the appropriate measures, including a timetable for their implementation. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the review. The programme shall be implemented by the Operator unless otherwise agreed in writing by the Agency.	31/01/09
IC 12	Written proposals shall be submitted to the Agency for providing secondary containment, or other appropriate measures to prevent or where that is not practicable, to minimise leakage and spillage from the primary pipework (including drains) or sumps, storage and treatment vessels in relation to their risk of causing pollution, having regard to IPPC S5.06, dated December 2004.	30/04/09
IC13	The operator shall undertake a review of the operation of the combustion plant, flare, gasholder and pressure relief valves. The review shall investigate options available to maximise the use of biogas for energy recovery, whilst minimising emissions from the flare and the release of unabated emissions of biogas. A written report shall be submitted to the Environment Agency detailing the outcome of the review, along with a programme for the implementation of any appropriate measures identified by the review. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the review. Any proposed improvements shall be implemented by the operator unless otherwise agreed in writing by the Agency.	31/10/09
IC14	The Operator shall submit written proposals to the Agency detailing the sampling and monitoring periods to be used for the collection of monitoring data required in Table S4.1 of this permit. The proposals shall include full justification for sampling periods selected. The proposals shall be implemented by the Operator unless otherwise agreed in writing by the Agency.	30/04/08
IC15	The operator shall install appropriate engineered connections for condensate discharges to collected, directed to the private drainage system and returned to the head of the works at a location downstream of those emergency/storm overflows, or initiate other permanently engineered condensate control measures, unless otherwise agreed in writing by the Agency.	30/04/09
IC 16	The operator shall submit a written report detailing the condition of the installation drainage which includes a review the condition of drains having regard to the requirements of Section 2.2.5 of the Agency Guidance Notice IPPC S5.06 dated December 2004. The report shall also include a detailed drainage plan for the installation including the routes for	30/04/09

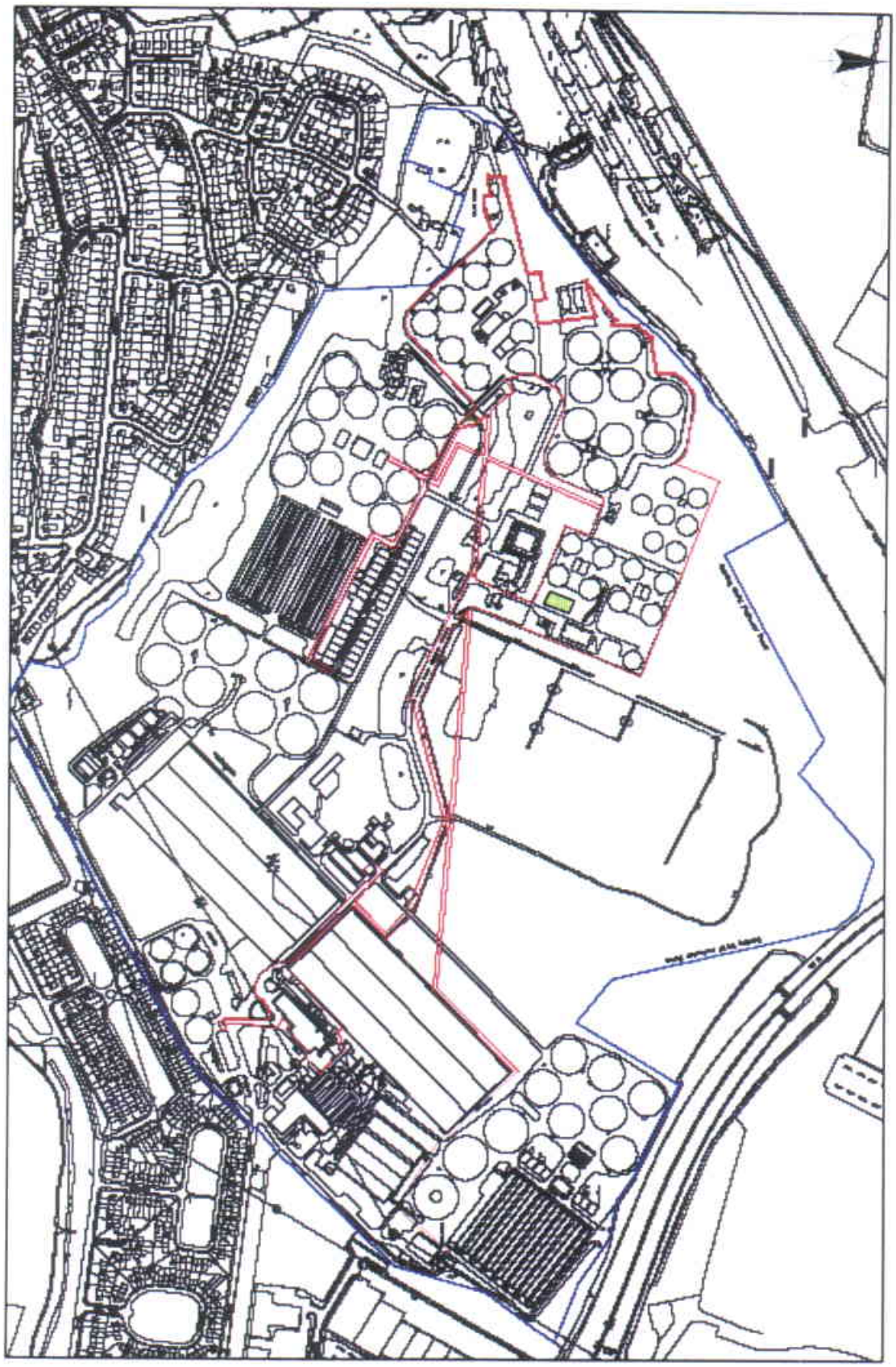
return flows to the head of the works and their location in relation to emergency and storm overflows.

The report shall include any appropriate measures identified for implementation to improve the drainage having regard to the requirements of Section 2.2.5 of the Agency Guidance Notice IPPC S5.06 dated December 2004 which shall include the relocation of the point of return to a location downstream of those emergency/storm overflows where necessary., along with a timescale for the measures to be implemented.

The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report and drainage plan.

Any subsequent improvements shall be implemented by the operator after the date of approval by the Agency and within a timescale to be agreed by the Agency.

Schedule 2 - Site plan



Extent of the installation covered by that of the other Operator

Schedule 3 - Waste types, raw materials and fuels

Table S3.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
-	-

Table S3.2 Permitted waste types and quantities for Storage	
Maximum quantity	No more than 158, 320 wet tonnes at any one time
Waste code	**Description**
190805	Sludge from treatment of Urban waste water
190203	Pre-mixed wastes composed only of non-hazardous wastes

Table S3.3 Permitted waste types and quantities for treatment	
Waste codes	No more than 1,243,350 wet tonnes per year
EWC Code	**Description**
190805	Sludge from treatment of Urban waste water
190203	Pre-mixed wastes composed only of non-hazardous wastes

Schedule 4 – Emissions and monitoring

Table S4.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method (see Note 1)
A1 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	Bio-gas engine located in the engine house	No limit set	Hourly average	Annually	BS EN 14792
A1 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Carbon Monoxide	Bio-gas engine located in the engine house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 15058
A1 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Total VOC's	Bio-gas engine located in the engine house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 12619 or BS EN 13526 dependant upon concentration
A1 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	NMVOC's	Bio-gas engine located in the engine house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 13649:2002
A2 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	Bio-gas engine located in the engine house	500mg/Nm^3	Hourly average	Annually	BS EN 14792
A2 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Carbon Monoxide	Bio-gas engine located in the engine house	1,400mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 15058
A2 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Total VOC's	Bio-gas engine located in the engine house	1000mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 12619 or BS EN 13526 dependant upon concentration
A2 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	NMVOC's	Bio-gas engine located in the engine house	75mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 13649:2002

A3 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	Bio-gas engine located in the engine house	500mg/Nm^3	Hourly average	Annually	BS EN 14792
A3 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Carbon Monoxide	Bio-gas engine located in the engine house	1,400mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 15058
A3 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Total VOC's	Bio-gas engine located in the engine house	1000mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 12619 or BS EN 13526 dependant upon concentration
A3 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	NMVOC's	Bio-gas engine located in the engine house	75mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 13649:2002
A4 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	Bio-gas engine located in the engine house	500mg/Nm^3	Hourly average	Annually	BS EN 14792
A4 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Carbon Monoxide	Bio-gas engine located in the engine house	1,400mg/Nm^3	Hourly average	Annually	BS EN 15058
A4 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Total VOC's	Bio-gas engine located in the engine house	1000mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 12619 or BS EN 13526 dependant upon concentration
A4 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	NMVOC's	Bio-gas engine located in the engine house	75mg/Nm^3	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 13649:2002
A5 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually	BS EN 14792
A5 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Carbon Monoxide	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually	BS EN 15058
A5 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Total VOC's	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 12619 or BS EN 13526 dependant upon concentration

A5 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	NMVOC's	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 13649:2002
A6 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually	BS EN 14792
A6 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Carbon Monoxide	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 13284-1:2002
A6 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	Total VOC's	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 12619 or BS EN 13526 dependant upon concentration
A6 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	NMVOC's	Dual fuel boiler located in the boiler house	No limit set	Hourly average	Annually (unless otherwise agreed in writing by the Agency)	BS EN 13649:2002
A7 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	No parameters set	Domestic dual fuel boiler, boiler house	No limit set	-	-	-
A8 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	No parameters set	Domestic dual fuel boiler, pump house	No limit set	-	-	-
A9 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	No parameters set	Domestic dual fuel boiler, admin building	No limit set	-	-	-
A10 as detailed on Figure 6 of the application, issue C (dated 08/01/07)	No parameters set	Flare Stack	No limit set	-	-	-
A11-A18 as detailed on figure 6 of the application, issue C (dated 08/01/07)	No parameters set	Pressure relief valves on digesters	No limit set	-	-	-
A19 as detailed on figure 6 of the application, issue C (dated 08/01/07)	No parameters set	Pressure relief valve on gas holder	No limit set	-	-	-
O1 - as detailed on figure 6 of the application, issue C (dated 08/01/07)	No parameters set	General Odour Control unit (Wet Scrubber)	No limit set	-	-	-

O2 - as detailed on figure 6 of the application, issue C (dated 08/01/07)	No parameters set	General Odour Control unit (Wet Scrubber)	No limit set	-	-	-

Note 1: Permanent access to for sampling/ monitoring is not required for emission points A1- A19.

Table S4.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
-	-	-	-	-	-	-

Table S4.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
PS6 (pumping station 6, as indicated on Figure 12, issue B submitted as part of the application)	-	Sludge liquor returns from gravity belt thickeners	-	-	-	-
PDS 1-29 (locations as indicated on Figure 12B, issue B submitted on 15/10/07)	-	Condensate knockout pots, boiler blowdown and surface water run-off.	-	-	-	-
OCU PDS (as indicated on Figure 12, issue B submitted as part of the application)	-	Liquor from the odour control units	-	-	-	-
Odour Abatement Plant Liquor Discharge to ASP 2 ((as indicated on Figure 12, issue B submitted as part of the application)	-	Liquor from odour control unit	-	-	-	-

Table S4.4 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Biogas	Hydrogen Sulphide content (mg/m^3)	Continuous (see note 2)	None specified	None specified
Boilers	Hours Run on biogas	Cumulative to determine the annual number of hours run	None specified	None specified
Boilers	Hours Run on fuel oil	Cumulative to determine the annual number of hours run	None specified	None specified
Standby fuel (Fuel Oil)	Volume Used (m^3)	Annual	None specified	None specified
CHP engines	Kilowatt Hours Run (kWh)	Weekly	Kilowatt Hours meter	None specified
CHP engines	Record Heat (kWth)	Continuous	Heat Meter	None specified
Odour Control Unit Wet scrubbers	pH	Continuous	pH meter	None specified
Standby Flare	Hours in operation	Cumulative to determine the annual number of hours run	None specified	None specified

Note 2: Continuous monitoring shall commence upon completion of improvement condition 7. A spot sample shall be taken every month prior to the continuous monitoring being brought into operation.

Schedule 5 - Reporting

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

Table S5.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.6.1.	A1, A2, A3, A4, A5,A6	Annual	01/01/08
Gas Quality (Hydrogen sulphide)	Biogas	Quarterly	01/01/08
Number of hours boilers are in operation	Not applicable	Annual	01/01/08
Volume of light fuel oil used	Not applicable	Annual	01/01/08
Number of hours CHP engines are in operation	Not applicable	Annual	01/01/08
Number of hours flare is in operation	Not applicable	Annual	01/01/08

Table S5.2: Annual production/treatment

Parameter	Units
Heat generated	KWth
Power Generated	Kwe
Amount of sludge treated	Tonnes

Table S5.3 Performance parameters

Parameter	Frequency of assessment	Units
Energy usage	Annually	MWs
Engine efficiency	Annually	kWth input / kWth (equivalent) output
Boiler efficiency	Annually	kWth output/m^3 fuel oil used

Table S5.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form Air – 9 Biogas from Installation or other form as agreed in writing by the Agency	24/10/08
Energy usage	Form energy 1 or other form as agreed in writing by the Agency	24/10/08
Biogas quality	Form performance 1or other form as agreed in writing by the Agency	24/10/08
Other performance indicators	Form performance 1 or other form as agreed in writing by the Agency	24/10/08

Schedule 6 - Notification

These pages outline 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 PPC Regulations.

Part A

Permit Number	**HP3931LJ**
Name of operator	**United Utilities Water PLC**
Location of Installation	**Davyhulme WwTW Sludge Treatment Facility**
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission 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	
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 submitted 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 installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of United Utilities Water PLC

Schedule 7 - Interpretation

"*accident*" means an accident that may result in pollution.

"accident management plan" means a documented procedure (or procedures) that set out the measures necessary to prevent accidents occurring within the permitted installation, during both normal and abnormal operations, and limit the consequences to human health or the environment of any such accidents that do occur.

"*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 4 to the PPC Regulations.

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

"disposal" shall mean any of the operations provided for in Annex IIA to Directive 75/442/EEC.

"emissions to land", includes emissions to groundwater.

"fugitive emission" means an emission to air, water or land from the activities which is not controlled by an emission limit.

"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.

"*land protection guidance*", means Agency guidance "H7 - Guidance on the protection of land under the PPC Regime: application site report and site protection monitoring programme".

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

"notify/notified without delay" means that a telephone call can be used, whereas all other reports and notifications must be supplied in writing, either electronically or on paper.

"PPC Regulations" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

"*quarter*" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"recovery" shall mean any of the operations provided for in Annex IIB to Directive 75/442/EEC.

"relevant person" and *"relevant conviction"* shall have the meanings given to them in the Environmental Protection Act 1990

"site protection and monitoring programme" means a document which meets the requirements for site protection and monitoring programmes described in the Land Protection Guidance.

"technically competent management" and *"technical competence"* shall have the meanings given to them in the Environmental Protection Act 1990.

"waste code" means the six digit code referable to a type of waste in accordance with the List of Wastes (England)Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

"WFD" means Waste Framework Directive (75/442/EEC).

"year" means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

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

(b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

END OF PERMIT