

**SCOTTISH ENVIRONMENT PROTECTION AGENCY**

**Pollution Prevention and Control Act 1999**

**Pollution Prevention and Control (Scotland) Regulations 2000  
("the Regulations")**

**PERMIT TO OPERATE A 'PART A' INSTALLATION**

**Permit Number: PPC/A/1022412**

Operator: ScotGen (Dumfries) Ltd

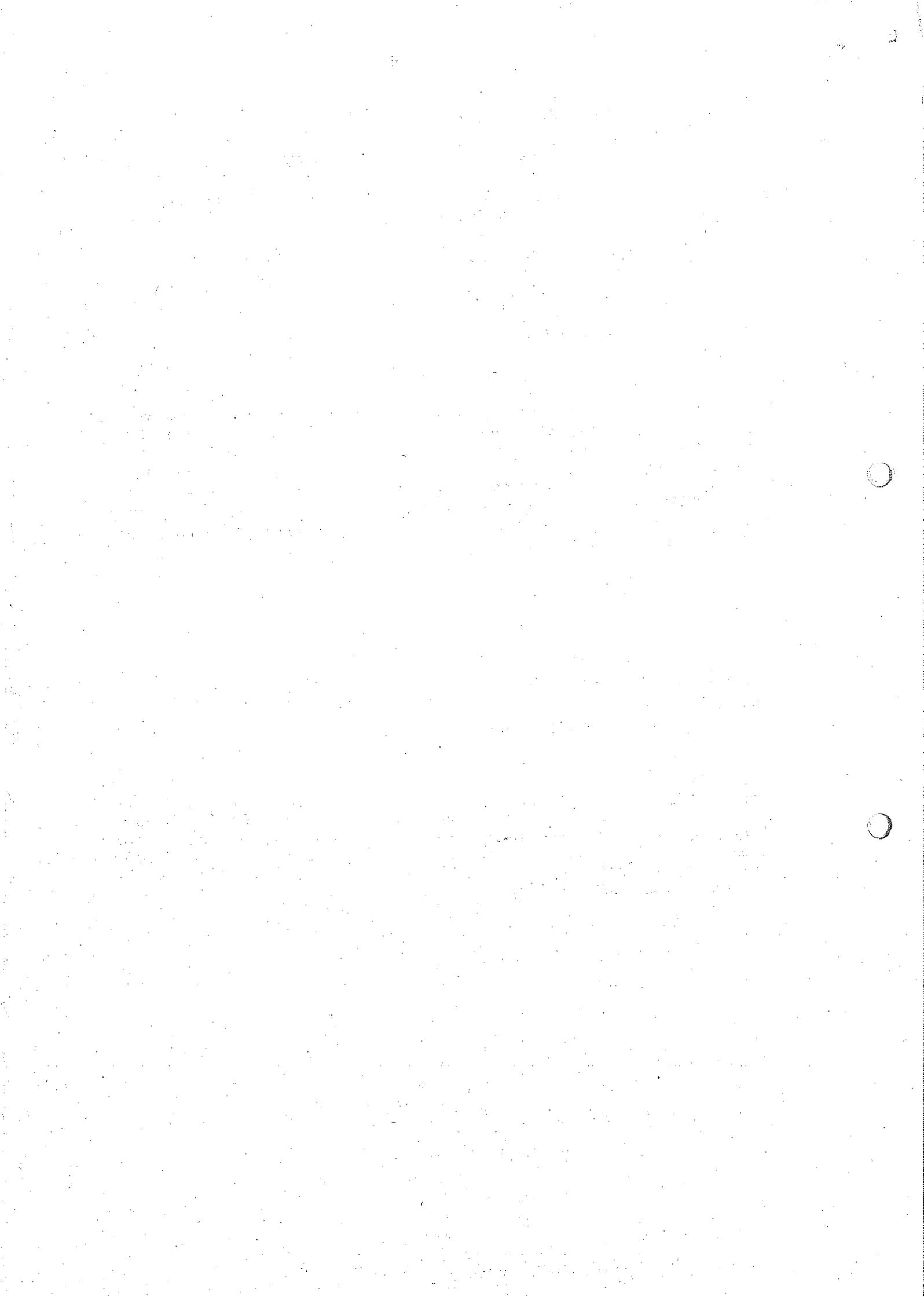
The Scottish Environment Protection Agency ("SEPA"), in accordance with Regulation 7 of the Regulations, hereby grants a permit to ScotGen (Dumfries) Ltd, company registration number SC180809 having its registered office at 5<sup>TH</sup> Floor, 7 Castle Street, Edinburgh, EH2 3AH ("the Operator") to operate an installation, more particularly described in Schedule 1 of this permit, on a site at Dargavel Energy from Waste Facility, Lockerbie Road, Dargavel, Dumfries, DG1 3PG more particularly described in said Schedule 1, subject to the requirements of the Regulations and to the conditions contained in the Schedules to this Permit.

Signed Robert Kerr  
Authorised to sign on behalf of the  
Scottish Environment Protection Agency

Date: 14 May 2009

Right of Appeal

Under Regulation 22 of the Regulations you are entitled to appeal to the Scottish Ministers against any condition or conditions of this Permit within six months of the date of this Permit, except where SEPA has granted this Permit in implementation of a direction to SEPA of the Scottish Ministers. The bringing of an appeal will not have the effect of suspending the operation of the said condition or conditions. The procedures for the making of an appeal are set out in Schedule 8 of the Regulations.



**CONTENTS**

<b>INTERPRETATION OF TERMS .....</b>	<b>3</b>
<b>SCHEDULES</b>	
<b>1 THE PERMITTED INSTALLATION .....</b>	<b>5</b>
1.1 Description of Permitted Installation .....	5
<b>ANNEX 1 TO SCHEDULE 1 - Site Plan .....</b>	<b>8</b>
<b>ANNEX 2 TO SCHEDULE 1 - Site Location .....</b>	<b>9</b>
<b>2 GENERAL CONDITIONS .....</b>	<b>10</b>
2.1 Administration .....	10
2.2 Records .....	10
2.3 Reporting .....	10
2.4 Incidents .....	11
2.5 Resource Utilisation .....	12
2.6 Management of Residues .....	12
2.7 Protection of Soil and Groundwater .....	12
2.8 Start-up and Shut-down .....	13
2.9 De-commissioning .....	13
2.10 Sampling and Monitoring Facilities .....	13
<b>ANNEX 1 TO SCHEDULE 2 .....</b>	<b>14</b>
Table 2.1: Reporting Requirements .....	14
Table 2.2: Resource Utilisation Data Recording .....	16
Table 2.3: Raw Materials, Energy and Fuel .....	16
<b>3 CONDITIONS APPLYING TO THE PERMITTED INSTALLATION AS A WHOLE .....</b>	<b>17</b>
3.1 Noise and Vibration .....	17
3.2 Odour .....	17
3.3 Burning .....	18
3.4 Surface Water Control and Drainage .....	18
3.5 Annual Report .....	19
3.6 Environmental Monitoring .....	19
3.7 Roads and Traffic Control .....	20
3.8 Litter, Dust and Vermin .....	20
3.9 Commissioning .....	20
3.10 Environmental Management and Maintenance Systems .....	24
<b>ANNEX 1 TO SCHEDULE 3 .....</b>	<b>26</b>
Table 3.1: Noise and Vibration Emission Limits .....	26
Table 3.2: Environmental Monitoring .....	26
<b>4 CONDITIONS APPLYING TO WASTE RECEPTION, INSPECTION AND STORAGE .....</b>	<b>27</b>
4.1 Permitted Types of Waste .....	27
4.2 Permitted Quantities of Waste .....	27
4.3 Inspection of Deliveries of Waste for Incineration .....	28
4.4 Record Keeping for Deliveries of Waste for Incineration .....	29
4.5 Storage of Wastes for Incineration .....	30

<b>ANNEX 1 TO SCHEDULE 4 .....</b>	<b>33</b>
Table 4.1: Permitted Waste Types .....	33
Table 4.2: Waste Delivery Record .....	36
<b>5 CONDITIONS APPLYING TO THE OPERATION OF THE INCINERATOR ..</b>	<b>37</b>
5.1 Incineration Process Operation .....	37
5.2 Control Systems and Interlocks .....	38
5.3 Abnormal Operating Conditions .....	39
5.4 Upgrading Requirements .....	41
<b>6 CONDITIONS APPLYING TO EMISSIONS FROM THE INCINERATION PROCESS .....</b>	<b>43</b>
6.1 Air Emission Conditions and Limits .....	43
6.2 Water Emission Conditions and Limits .....	44
6.3 Monitoring, Measurement and Sampling Techniques .....	46
6.4 Data Handling and Reporting - Continuous Monitoring .....	46
6.5 Data Handling and Reporting - Periodic Monitoring .....	48
6.6 Residue Management .....	49
<b>ANNEX 1 TO SCHEDULE 6 - .....</b>	<b>51</b>
Table 6.1: Emissions to Air ELVs .....	51
Table 6.2: Emissions to Air Continuous Monitoring Requirements .....	52
Table 6.3: Emissions to Air Monitoring Spot Sampling Requirements .....	53
Table 6.4: Mass Emissions to Air .....	54
<b>ANNEX 2 TO SCHEDULE 6 - Emissions to Water.....</b>	<b>56</b>
Table 6.5: Emissions to Water/Sewer ELVs .....	56
Table 6.7: Emissions to Water Spot Sampling Requirements .....	58
Table 6.8: Two Tier Consent Table .....	59
Table 6.9: Mass Emissions to Water .....	60
<b>ANNEX 3 TO SCHEDULE 6 - Toxic Equivalence Factors .....</b>	<b>61</b>
Table 6.10: Toxic Equivalence Factors for Dioxins, Furans and Dioxin-like PCBs .....	61
Table 6.11: Molecular Masses for PAHs .....	62
<b>ANNEX 4 TO SCHEDULE 6 - Residues.....</b>	<b>63</b>
Table 6.12: Residues Handling and Storage .....	63
Table 6.13: Residue Assessment .....	64
Table 6.14: Other Raw Material Storage .....	64

## INTERPRETATION OF TERMS

For the purposes of this Permit, and unless the context requires otherwise, the following definitions shall apply:

“Authorised Person” means a person who is authorised in writing under Section 108 of the Environment Act 1995 to carry out duties on behalf of SEPA;

“Climate Change Agreement” has the same meaning as in Section 46 of the Finance Act 2000;

“co-incineration plant” has the same meaning as in the Waste Incineration (Scotland) Regulations 2003, SSI 170;

“Commissioning Activities” and “commissioning” means the start up of a Permitted Installation, or part thereof, for the first time following construction, or after any significant modification or change. It includes: the planning and management of the commissioning of the Permitted Installation or part thereof; functional testing of equipment; introducing process materials to the plant; resolution of technical and procedural problems; confirmation that all aspects of the plant operate as designed or planned; and confirmation the plant operates within the conditions of this Permit;

“de-commissioning” means ceasing the use of the Permitted Installation, or part thereof, including decontaminating and dismantling the equipment to such an extent that it can no longer be used;

“emission” has the same meaning as in the Regulations;

“European Waste Catalogue” (“EWC”) means the list of wastes pursuant to Article 1(a) of Directive 75/442/EEC on waste and Article 1(4) of Directive 91/689/EEC on hazardous waste contained in Council Decision 2000/532/EC (OJ L 226, 6.9.2000, p.3) as amended by Council Decisions 2001/118/EC (OJ L 47 16.2.2001, p.32) and 2001/119/EC (OJ L 203, 28.7.2001, p.18)(or any subsequent amendments to the same);

“incident” means any of the following situations:

- where an accident occurs which has caused or may have the potential to cause pollution;
- where any malfunction, breakdown or failure of plant or techniques is detected which has caused or may have the potential to cause pollution;
- where any substance, vibration, heat or noise specified in any condition of this Permit is detected in an emission from a source not authorised by a condition of this Permit and in a quantity which may cause pollution;
- where an emission of any pollutant not authorised to be released under any condition of this Permit is detected; or,
- where an emission of any substance, vibration, heat or noise is detected that has exceeded, or is likely to exceed, or has caused, or is likely to cause to be exceeded any limit on emissions specified in a condition of this Permit;

“incineration plant” has the same meaning as in the Waste Incineration (Scotland) Regulations 2003, SSI 170;

“Location Plan” means the plan attached at Annex 2 to Schedule 1;

"the Permitted Activities" are defined in Schedule 1 of this Permit;

"the Permitted Installation" is defined in Schedule 1 of this Permit and includes references to parts of the Permitted Installation;

"pollutant" and "pollution" have the same meaning as in the Regulations;

"the Regulations" means The Pollution Prevention and Control (Scotland) Regulations 2000, SSI 323;

"residues" has the same meaning as in the Waste Incineration Directive (2000/76/EC);

"start-up" means the restarting of the Permitted Installation or part thereof following any shutdown for any reason, it includes partial shutdowns, for example to repair equipment necessary to ensure compliance with the conditions in this Permit;

"start-up period" means the period between igniting the burners until the temperature reaches that specified in Condition 5.1.1(d);

"shut-down" means the cessation of the incineration of waste and can include the cooling of the incinerator to ambient temperature;

"shut-down period" means the period of time taken to shut down;

"SEPA" means the Scottish Environment Protection Agency;

"the Site" is defined in Schedule 1 of this Permit and 'on-site' and 'off-site' shall be interpreted accordingly;

"the Site Boundary" means the boundary of the site as shown in red in the Site Plan;

"Site Plan" means the plan attached at Annex 1 to Schedule 1.

"water environment" has the same meaning as in the Water Environment and Water Services (Scotland) Act 2003 that is all surface water, groundwater and wetlands; and "surface water", "groundwater" and "wetlands" shall have the same meanings as in the Act.

Any reference to a group of conditions, numbered condition, schedule, table, appendix, figure or paragraph is a reference to a group of conditions, numbered condition, schedule, table, appendix, figure or paragraph bearing that number in this Permit.

Except where specified otherwise in this Permit:

- "day" means any period of 24 consecutive hours;
- "week" means a period of 7 consecutive days;
- "month" means a calendar month;
- "year" means any period of 12 consecutive months;

and any derived words (e.g. "monthly", "quarterly") shall be interpreted accordingly.

Except where specified otherwise in this Permit, any reference to an enactment or statutory instrument includes a reference to it as amended (whether before or after the date of this Permit) and to any other enactment, which may, after the date of this Permit, directly or indirectly replace it, with or without amendment.

## **1 THE PERMITTED INSTALLATION**

### **1.1 Description of Permitted Installation**

**1.1.1** The permitted installation to which this Permit applies ("the Permitted Installation") is:

- (a) the stationary technical unit specified in paragraph 1.1.4 ("the Stationary Technical Unit"), where the activity specified in paragraph 1.1.3 is carried out ("the Activity"), together with the directly associated activities specified in paragraph 1.1.5 ("the Directly Associated Activities");
- (b) the site ("the Site") and location of the Permitted Installation is delineated in red on the Site Plan.

**1.1.2** The general location of the Site is as shown on the Location Plan.

**1.1.3** The Activity carried out at the Stationary Technical Unit is the incineration of waste which is described in Part A of Chapter 5, Section 5.1, paragraph 5.1(a) of Schedule 1 to the Regulations as the incineration of hazardous waste in an incineration plant.

**1.1.4** The Stationary Technical Unit, comprising two identical processing lines, each line comprises the following unit operations:

- (a) a waste reception, inspection and storage area comprising waste storage bays and a rejected waste quarantine area within the enclosed processing building serving all processing lines;
- (b) four batch primary gasification chambers connected to each secondary chamber, each fitted with a hydraulically sealed waste charging and two de-ashing access doors, one under-fire and two over-fire air fan, two gas oil fired burners, four water spray quench nozzles and a hydraulically actuated valve to isolate each chamber from the secondary combustion chamber;
- (c) a secondary combustion chamber operating at a temperature of over 1100°C with a gas residence time of over 2 seconds at 8.0 to 10% oxygen fitted with two auxiliary Low-NOx gas oil burners and two combustion air fans and an emergency vent (bypass) system;
- (d) an electricity generation system serving all processing lines comprising a waste heat recovery steam generator (boiler) fitted with superheater and economiser systems producing superheated steam at 400°C and 41 bar that is passed to a condensing steam turbine connected to a electrical generator;

- (e) a flue gas cleaning and conditioning system comprising; a urea solution injection system in the secondary combustion chamber for the control of NO<sub>x</sub> emissions, a flue gas re-circulation system also used for the control of NO<sub>x</sub> emissions; a flue gas reaction tower incorporating a sodium bicarbonate storage and injection system for the abatement of acid gases and a powdered activated carbon injection system for the abatement of dioxins and metals and a bag filter system for the removal of particulate matter and spent flue gas treatment residues;
- (f) ash residue treatment and storage systems comprising screw conveyors, quench systems and storage containers serving all processing lines;
- (g) one sodium bicarbonate storage silos with a capacity of 72 m<sup>3</sup> serving all processing lines, a powdered activated carbon storage hopper of 100 litre capacity, a bunded gas oil storage tank of 15 m<sup>3</sup> capacity and a bunded storage tank for urea solution with a capacity of 1 m<sup>3</sup> serving all processing lines;
- (h) a turbine condenser cooling system comprising open circuit condensate circulation ring and four multi cell evaporative induced draft cooling towers and condensate collection, treatment and recovery system
- (i) a pressurised oil hydraulic system used to operate access doors, control valves and other systems;
- (j) a boiler water treatment, de-aerator and blowdown system comprising boiler feed water pumps, de-aerator vessel and water treatment system; and
- (k) a aqueous effluent treatment and storage system comprising a water softener and reverse osmosis and resin polishing system for the treatment of towns water, a treated water tank and a towns water storage tank.

**1.1.5 The following Directly Associated Activities are carried out on the Site:**

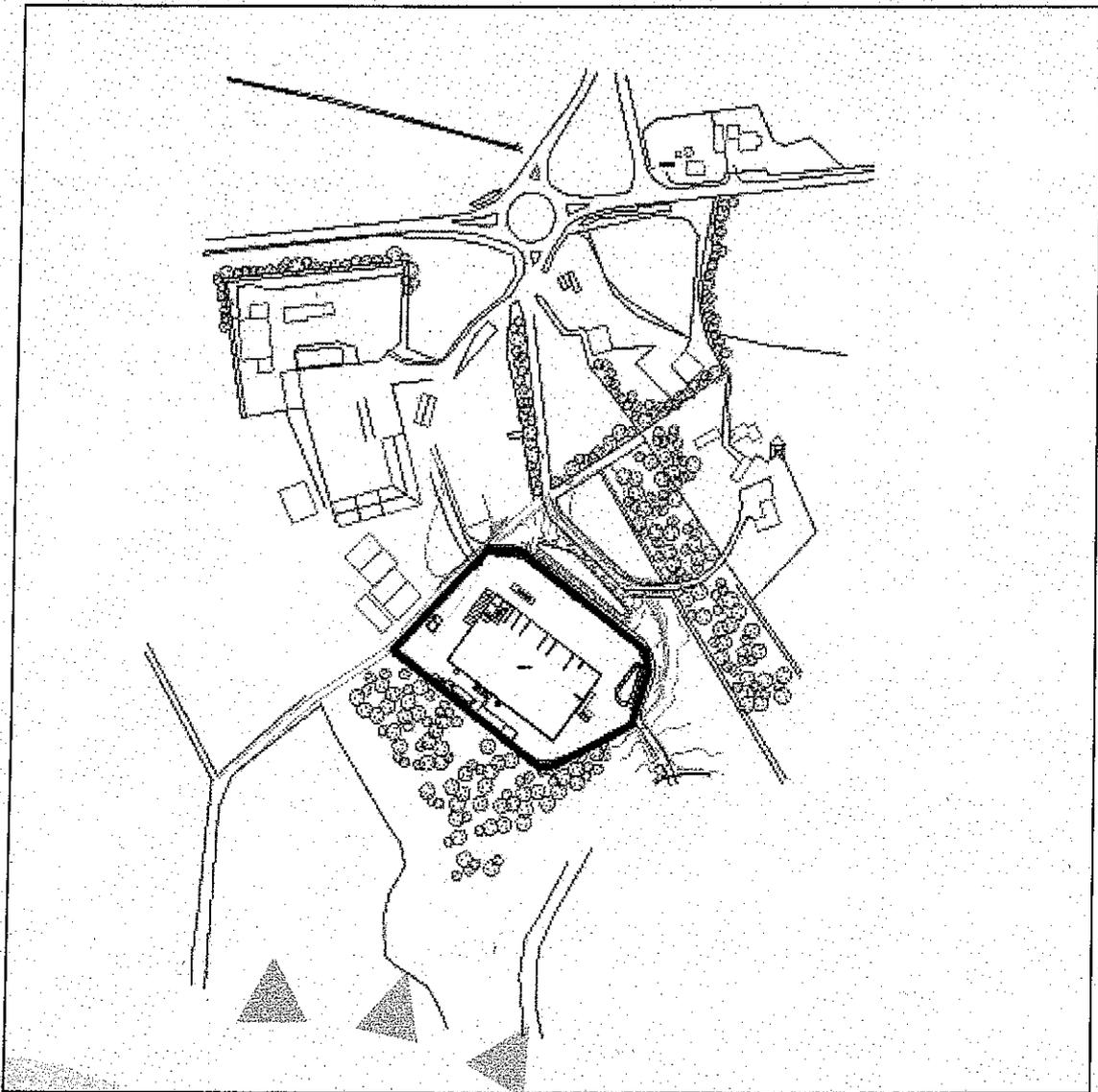
- (a) a 0.8 MW standby generator system fired by gas oil;
- (b) a surface water rainfall collection and drainage system for uncontaminated surface waters comprising a system of linked drains, swales and soak-away retention basin ultimately discharging to the Dargavel Burn;
- (c) a surface water rainfall collection and drainage system for surface waters from the hard standing area around the Hazardous Waste and chemical storage areas (referred to as "Contained Area 1" and represented by the area defined as "Bunded Yard Network Area 1" specified on drawing number AA1524/EW/02 in the addendum to the response to Schedule 4 notice dated 16/03/09) comprising drain points and underground pipe work connected to a full retention interceptor comprising automatic isolation and monitoring systems ultimately discharging to the Dargavel Burn;

- (d) a weighbridge system; and
- (e) two electrically driven air compressor systems.

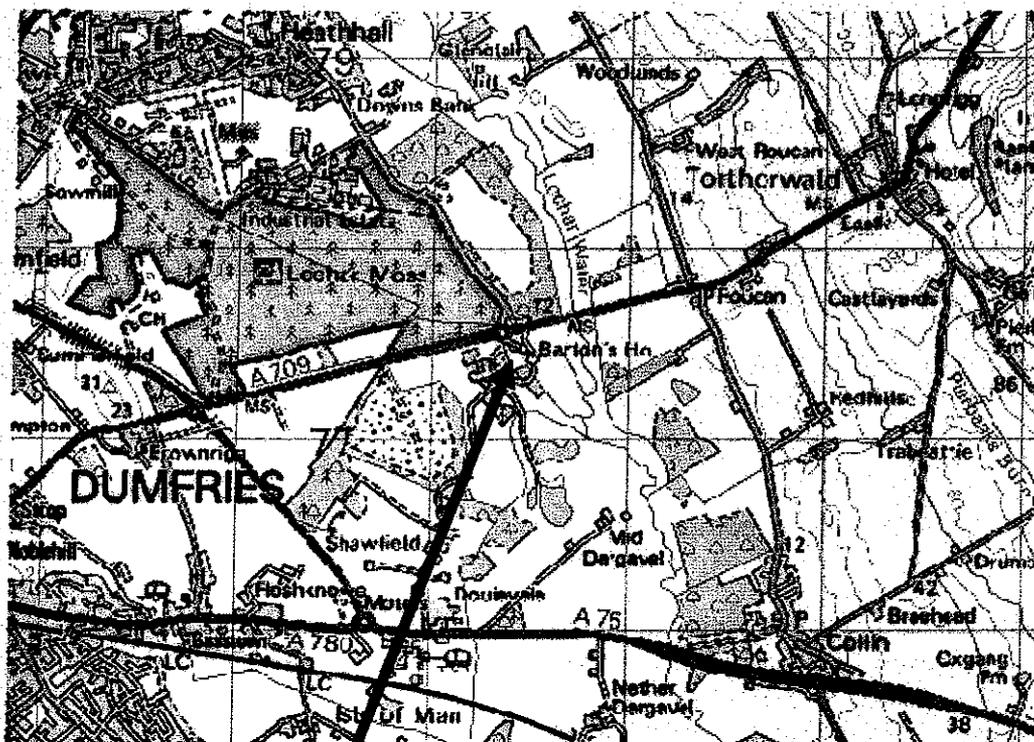
- 1.1.6 Emissions of sewage effluents subject to registration CAR/R/102129 and abstraction of ground water subject to authorisations CAR/R/1017665, CAR/L/1022522, CAR/L/1032440 or CAR/L/1033239 do not form part of the Permitted Activities and are not subject to the provisions of this permit.
- 1.1.7 For the purposes of this Permit, the Activity and Directly Associated Activity shall be known together as "the Permitted Activities".



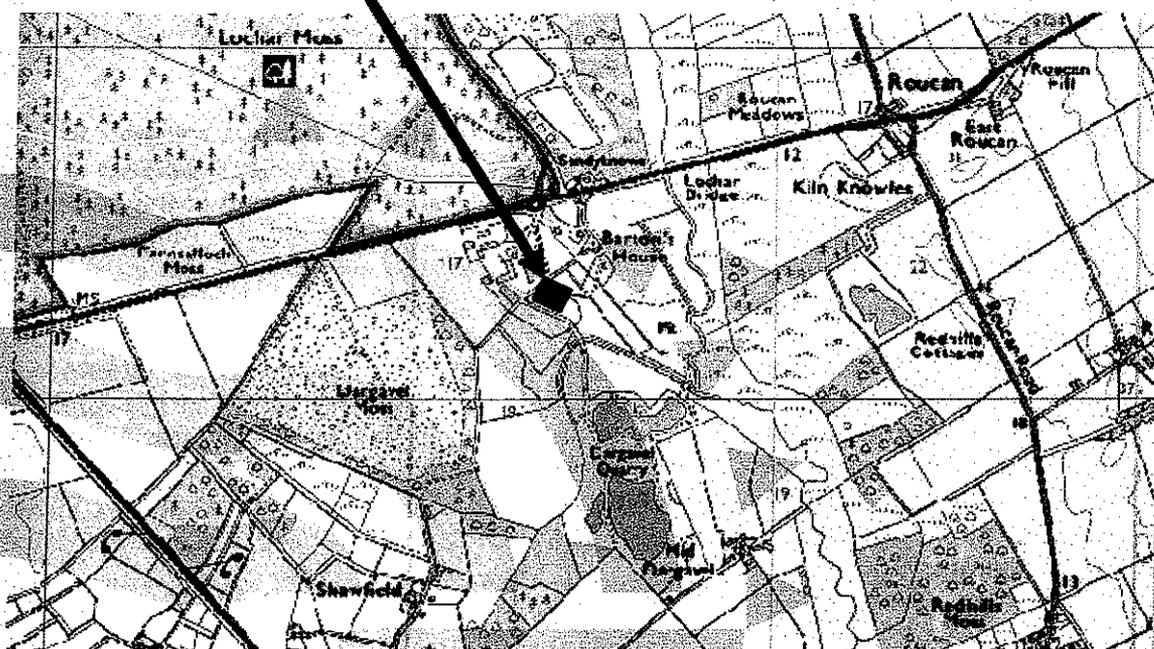
**ANNEX 1 TO SCHEDULE 1 - Site Plan**



ANNEX 2 TO SCHEDULE 1 - Site Location



Installation Location



© Crown copyright. All rights reserved SEPA. License Number 100020538 2009.

## **2 GENERAL CONDITIONS**

### **2.1 Administration**

- 2.1.1 The Operator shall have an appropriate person (and deputy) as the primary point of contact with SEPA and shall notify SEPA in writing of the name of the appointed person (and deputy) within 4 weeks of the date of this Permit.
- 2.1.2 In the event of a different person being appointed to act as primary point of contact (or deputy), the Operator shall notify SEPA in writing of the name of the appointed person or deputy without delay.
- 2.1.3 A copy of this Permit shall be kept at the Permitted Installation and shall be made readily accessible for examination by all staff.
- 2.1.4 Any systems or procedures used by the Operator to demonstrate compliance with a condition of this Permit shall be recorded.

### **2.2 Records**

- 2.2.1 All records made in compliance with this Permit shall be kept in a systematic manner.
- 2.2.2 Unless otherwise specified in a condition of this Permit, every record made in compliance with a condition of this Permit shall be preserved for not less than 5 years from the date of its being made. Every such record shall be kept at the Permitted Installation for not less than one year from the date of its being made, and thereafter preserved at a location previously notified to SEPA in writing, if that location is not the Permitted Installation.
- 2.2.3 All records shall be legible, and any amendment made to any record made in compliance with a condition of this Permit shall be made in such a way as to leave the original entry clear and legible. The reason for each amendment shall be explained in the said record.
- 2.2.4 Without prejudice to Condition 2.2.2, all Operator's records relevant to the operation and maintenance of the Permitted Installation shall be kept at the Permitted Installation for not less than one year from the end of the period to which they apply.

### **2.3 Reporting**

- 2.3.1 Where any condition of this Permit requires information to be reported, a report shall be forwarded, in writing, in duplicate, to SEPA at the address specified in the explanatory notes attached to this Permit, by the date(s) or within the period or at the frequency specified in Table 2.1, and, where appropriate, the first report shall be due on the date specified in that Table. All such reports shall include the Permit number and the name of the Operator.

- 2.3.2 Where the Permitted Installation has not operated for the duration of any relevant reporting period specified in Table 2.1, the Operator shall provide written notification to SEPA. This shall confirm that no relevant reports have been made in terms of Condition 2.3.1, because the Permitted Installation has not operated during the said period. Such notifications shall be submitted within one month of the end of the reporting period concerned.
- 2.3.3 All notifications required by any condition of this Permit shall be made to SEPA in the manner specified in that condition to the address specified in the explanatory notes attached to this Permit. All such notifications shall include the Permit number and name of the Operator.
- 2.4 Incidents**
- 2.4.1 In the event of an incident, the Operator shall take all necessary measures to prevent, or where that is not practicable, to reduce emissions from the Permitted Installation. All necessary measures to limit the consequences for the environment of any emissions from the Permitted Installation shall be taken, so far as reasonably practicable.
- 2.4.2 In the event of an incident, the Operator shall notify SEPA by telephone without delay. This notification shall include, as far as practicable, the information specified in Condition 2.4.3.
- 2.4.3 The Operator shall confirm any Incident to SEPA in writing by first class post or facsimile by the next working day after identification of the incident. This confirmation shall include: the time and duration of the incident; the receiving environmental medium or media where there has been any emission as a result of the incident; an initial estimate of the quantity and composition of any emission; the measures taken to prevent or minimise any emission or further emission; and, a preliminary assessment of the cause of the incident.
- 2.4.4 Any incident notified to SEPA shall be investigated by the Operator, and a report of the investigation sent to SEPA. The report shall detail, as a minimum: the circumstances of the incident; an assessment of any harm to the environment; and, the steps taken by the Operator to bring the incident to an end. The report shall also set out proposals for remediation, where necessary, and for preventing a repetition of the incident.
- 2.4.5 Within 6 months of the date of this Permit, the Operator shall prepare, implement and maintain an "Incident Prevention and Mitigation Plan" setting out the steps to be taken by the Operator to ensure that all preventative measures are in place to avoid an incident to any and each medium, and any incident that does occur is mitigated in the most appropriate manner.
- 2.4.6 At least every 2 years the Operator shall review the Incident Prevention and Mitigation Plan required under Condition 2.4.5. Each review of the said plan shall be recorded and where the Operator makes any revisions to the said plan said revisions shall be recorded.

## **2.5 Resource Utilisation**

- 2.5.1 At least every 2 years the Operator shall carry out a systematic assessment of the raw material, energy and fuel consumption, energy released from the incineration process and energy recovered, emissions and waste production associated with the Permitted Activities. The purpose of the assessment shall be to identify methods of reducing raw material, energy and fuel consumption, emissions and waste production. Each assessment shall be recorded. A summary of any energy use or waste minimisation projects identified as a result of said assessment and the estimated costs, corresponding reduction in specific and lifetime carbon dioxide (equivalent) emissions, implementation dates and pay back periods relating to each project shall be reported.
- 2.5.2 In respect of raw materials, energy and fuel consumed, emissions and waste produced within the Permitted Installation, the Operator shall record the data specified in Table 2.2 at the frequency specified in that Table and shall report that data.
- 2.5.3 For the purposes of Conditions 2.5.1 and 2.5.2, "raw materials, energy and fuel" shall mean the materials listed in Table 2.3.

## **2.6 Management of Residues**

- 2.6.1 At least every 2 years the Operator shall carry out a systematic assessment and review of the management of all residues generated by the Permitted Activities. The purpose of the assessment shall be to identify methods of avoiding or reducing the impact on the environment of the disposal of residues. Each assessment shall be recorded and reported.
- 2.6.2 The Operator shall maintain a record of the location, estimated quantities and types of all residues generated on and stored within the Permitted Installation. The said record shall be updated weekly.

## **2.7 Protection of Soil and Groundwater**

- 2.7.1 Unless specified elsewhere in this Permit, there shall be no emission of any pollutants to groundwater or soil from the Permitted Installation.
- 2.7.2 The Operator shall maintain a record of any incident that has, or might have, impacted on the condition of any soil or groundwater including the soil or groundwater under the Site, either as a result of that incident or as a result of an accumulation of incidents, together with a record of any further investigation or remediation work carried out.
- 2.7.3 Notwithstanding the requirements of Condition 2.2.2, the record required by Condition 2.7.2 shall be preserved until this Permit is surrendered.

## **2.8 Start-up and Shut-down**

- 2.8.1 Within 6 months of the date of this Permit, the Operator shall prepare implement and maintain a plan ("the Start-up and Shut-down Plan") setting out the necessary steps to be taken by the Operator prior to start-up or shut-down of operations of the Permitted Installation, or part thereof, to ensure that all appropriate preventative measures are taken against pollution and that no significant pollution is caused.
- 2.8.2 At least every 2 years the Operator shall review the Start-up and Shut-down Plan required under Condition 2.8.1. Each review of the plan shall be recorded and where the Operator makes any revisions to the plan, these revisions shall be recorded.

## **2.9 De-commissioning**

- 2.9.1 Within 6 months of the date of this Permit, the Operator shall prepare and maintain a plan ("the De-commissioning Plan") for the de-commissioning of the Permitted Installation. The De-commissioning Plan shall set out the steps to be taken by the Operator after final cessation of the Permitted Activities.
- 2.9.2 The Operator shall notify SEPA in writing of its intention to cease the Permitted Activities, or any part thereof, for any period exceeding 12 months, no later than two months prior to the proposed date of cessation.
- 2.9.3 The Operator shall implement the De-commissioning Plan on final cessation of the Permitted Activities or any part thereof.
- 2.9.4 The Operator shall review, record and, where necessary, update the De-commissioning Plan:
- (a) at least every 4 years; and
  - (b) where the Operator plans to make a substantial change in the extent or nature of the Permitted Installation.

## **2.10 Sampling and Monitoring Facilities**

- 2.10.1 Sampling measurement and monitoring facilities at the Permitted Installation shall conform to the requirements of the relevant test methods specified in any condition of this Permit, or as otherwise agreed in writing by SEPA.
- 2.10.2 Unrestricted access to all sampling points required by any condition of this Permit shall be provided at all times.

## ANNEX 1 TO SCHEDULE 2

Table 2.1: Reporting Requirements

Summary of information to be reported	Condition	Date/within period/frequency to be reported	Date first report due
Incident initial report	2.4.3	By next working day after identification of the Incident	N/A
Incident investigation report	2.4.4	Within 14 days of the date of the Incident, unless otherwise agreed in writing with SEPA	N/A
Resource utilisation	2.5.1	At least once every 2 years	28 February 2011
Raw material utilisation data	2.5.2	Annually for a reporting period 1 January to 31 December, by 31 December	31 January 2010
Waste management review	2.6.1	At least every 2 years	28 February 2011
Noise and vibration assessment	3.1.1	At least every 4 years, and as required	30 January 2012
Noise monitoring	3.1.3	One off report	Within 2 months of the submission of the final commissioning report required by condition 3.9.8
Noise BAT assessment	3.14	One off report	Within 2 months of the submission of the report required by condition 3.1.3
Ambient monitoring strategy, monitoring methods and locations	Table 3.2	Initial report and agreement of monitoring methods and locations  Ongoing strategy	Within 1 month of the date of this permit for any sampling required prior to operation and within 3 months of the date of this permit for other sampling  1 November 2010
Annual report	3.5.1	Annually for a reporting period 1 January to 31 December	31 January 2010
Environmental monitoring results	3.6.1	Six monthly reporting periods 1 January to 30 June and 1 July to 31 December	31 January 2010
Commissioning progress	3.9.5	Monthly during commissioning activities	N/A
Commissioning breaches leading to remedial action	3.9.6(b)	Prior to any further operation of the plant	N/A
Commissioning activities	3.9.8	Within one month of commissioning activities ceasing	N/A
Quantities of waste incinerated	4.2.3	Quarterly reporting of the monthly quantities incinerated, within one month of the end of the quarter. Reporting periods 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December	30 October 2009
Refusal to accept waste load	4.3.2	Within 14 days of the date of refusing the load of waste, unless otherwise agreed in writing with SEPA	N/A

Summary of information to be reported	Condition	Date/within period/frequency to be reported	Date first report due
Annual drainage/bund testing fault reporting	4.5.10	Annual report	31 January 2010
Residence time verification	5.4.1	One off report	31 May 2009
CHP assessment (heat plan)	5.4.2	Detailed report every 2 years.	30 December 2010
Boiler efficiency	5.4.3	One off report	30 November 2009
Bypass relief system modification assessment	5.4.4	One off report	28 February 2010
Dioxin and metal CEMS review	5.4.5	Every two years	28 February 2011
Mass emission results to air	6.1.11	Annually for the reporting period 1 January to 31 December	31 January 2010
Emissions to water sampling plan	6.2.5	Annually for forthcoming reporting period 1 January to 31 December	31 October 2009
Mass emission results to water	6.2.6	Annually for the reporting period 1 January to 31 December	31 January 2010
Monitoring equipment calibration	6.3.5	Within one day of the date the calibration work identifies over or under estimation of Emissions	N/A
Continuous monitoring of emissions to air and water	6.4.8	Quarterly reporting of the monthly emissions, within one month of the end of the quarter. Reporting periods 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December	30 October 2009
Periodic monitoring of emissions to air	6.5.9	For any tests completed within the period within the quarterly report required by condition 6.4.8.	30 October 2009
Periodic monitoring of emission to water	6.5.9	Quarterly reporting of the monthly emissions, within one month of the end of the quarter. Reporting periods 1 January to 31 March, 1 April to 30 June, 1 July to 30 September & 1 October to 31 December	30 October 2009
Chemical composition of ash and bag filter residues	6.6.3 to 6.6.6	For any tests completed within the period within the quarterly report required by condition 6.4.8.	30 October 2009
Nitrous oxide emissions review	6.7.1	One off report	24 September 2010

**Table 2.2: Resource Utilisation Data Recording**

Data required to be recorded	Recording frequency
Energy and fuel consumption, by source and as a total for all sources, estimated on a monthly basis with method of estimation and expressed as MJ per tonne waste incinerated	Monthly
Emissions of carbon dioxide, associated with energy and fuel consumption, in tonnes, estimated on a monthly basis with the method of estimation	Monthly
Energy efficiency estimation per unit of production, in MJ per tonne of waste incinerated, with the method of estimation	Monthly
Energy recovered per unit of production, in MJ per tonne of waste incinerated, with the method of estimation	Monthly
Energy usefully utilised per unit of production, in MJ per tonne of waste incinerated, with the method of estimation	Monthly
Quantity of emissions released and waste produced by type and source in tonnes, estimated on a monthly basis with method of estimation	Monthly
Quantity of emissions released and waste produced by type in tonnes per unit waste incinerated, estimated on a monthly basis with method of estimation	Monthly
The total quantity of aqueous waste, and solid waste, expressed in tonnes or kg per tonne waste incinerated, estimated on an monthly basis with method of estimation	Monthly

**Table 2.3: Raw Materials, Energy and Fuel**

Raw material	Specification
Electricity	Uninterruptible supply
gas oil	<0.1% sulphur
Gas treatment dosing chemicals	To be agreed in writing with SEPA
Water	N/A
Boiler water treatment chemicals	To be agreed in writing with SEPA

**3 CONDITIONS APPLYING TO THE PERMITTED INSTALLATION AS A WHOLE**

**3.1 Noise and Vibration**

3.1.1 At least every 4 years, or whenever any equipment with a noise output which could have an impact on noise sensitive receptors is replaced, installed or relocated, the Operator shall carry out a systematic assessment of noise and vibration emissions associated with the Permitted Activities, the purpose of which shall be to identify methods of preventing and reducing noise and vibration emissions. Each assessment, including any action taken, shall be recorded and reported.

3.1.2 Waste shall only be accepted at the Permitted Installation during the following hours:

Monday to Friday 08:00 hours to 18:00 hours  
Saturday 08:00 hours to 12:00 hours  
Sunday Not permitted.

3.1.3 Within 2 months of submission of the report required by Condition 3.9.8, the Operator shall provide an environmental noise report, to a recognised British Standard, to quantify the impact of specific Installation noise at nearby Noise Sensitive Receptors. The report should assess noise emissions during routine operations, and foreseeable infrequent operations and detail:

- (a) all items of plant contributing to environmental noise impact during the assessment;
- (b) how specific noise emission levels were obtained;
- (c) how predicted impact figures have been determined; and
- (d) any intermittency or tonal factors that may make the specific noise subjectively more annoying.

3.1.4 Within 2 months of submission of the noise report required by Condition 3.1.3, the Operator shall provide a detailed assessment of whether all reasonable steps have been employed to prevent or minimise the impact of noise emissions from Installation activities on Noise Sensitive Receptors. Where the assessment indicates that improvements are required, the Applicant shall describe in said assessment what steps will be taken and the timescale for completion of any proposed works.

**3.2 Odour**

3.2.1 All emissions to air from the Permitted Installation shall be free from offensive odour, as perceived by an Authorised Person, outside the Site Boundary.

3.2.2 By 1st August 2009, the Operator shall prepare, implement and maintain a plan ("the Odour Assessment and Action Plan") setting out the steps to be taken by the Operator to ensure that all appropriate preventative measures are taken against odour pollution and that no significant odour pollution is caused. The Odour Assessment and Action Plan shall include:

- (a) a methodology for assessing which process operations have the potential to be odorous;
- (b) an operating methodology to ensure all sources of potentially offensive odours are, as far as practicable, enclosed;
- (c) a methodology for undertaking an olfactory survey of the Permitted Installation daily;
- (d) an action plan for the investigation into the source of any odour detected either during an olfactory survey of the Permitted Installation, or at any other time, that could be attributed to the Permitted installation, as soon as the odour is detected;
- (e) an action plan for implementing appropriate remedial action where the investigation required by Condition 3.2.2(d) has identified a source of odour on the Permitted Installation that could lead to a breach of Condition 3.2.1.

**3.2.3 The Operator shall record:**

- (a) the results of each olfactory survey;
- (b) the results of each investigation undertaken in compliance with Condition 3.2.2(d); and
- (c) any remedial action undertaken in compliance with Condition 3.2.2(e).

**3.2.4** At least every 2 years the Operator shall review the Odour Assessment and Action Plan required under Condition 3.2.2. Each review of this plan shall be recorded and where the Operator makes any revisions to the said plan these revisions shall be recorded.

**3.3 Burning**

**3.3.1** No waste or other material shall be burnt within the boundaries of the Permitted Installation except within the incineration plant as part of the incineration activity.

**3.4 Surface Water Control and Drainage**

**3.4.1** Drainage shall be provided and maintained to ensure that:

- (a) rainfall run-off does not drain into the waste storage areas;
- (b) surface water run-off contaminated with Pollutants does not directly enter the water environment;
- (c) the Permitted Installation does not become subject to ponding or waterlogging; and
- (d) at least 700 m<sup>3</sup> of contaminated rainwater, spillages or fire fighting water from containing and extinguishing fires within the main processing building can be contained prior to any discharge to the water environment or sewer.

- 3.4.2 By 1 August 2009, the Operator shall prepare, record and implement a plan ("the Surface Water, Drainage and Spillage Plan"), designed to prevent the release of pollutants to surface water or site drains from any spillage or leaks resulting from the Permitted Activities.
- 3.4.3 As part of the Surface Water, Drainage and Spillage Plan required by Condition 3.4.2, the Operator shall identify what spillage prevention, mitigation and clean up equipment is to be made available on the Permitted Installation, the quantity of such equipment, and the strategic locations of any storage containing such equipment. The identified equipment shall be available such that it can be accessed immediately in the event of any spillages.
- 3.4.4 At least every 2 years, the Operator shall review the Surface Water, Drainage and Spillage Plan required under Condition 3.4.2. Each review of the said plan shall be recorded and where the Operator makes any revisions to the said plan said revisions shall be recorded.
- 3.4.5 Without prejudice to the requirements of Condition 2.2.2 and Condition 4.5.9, the Operator shall maintain plans that identify the configuration and specification of all drains and subsurface pipework and the position and purpose of all subsurface sumps and storage vessels that are used or have been used within the Site from the date of this Permit until the Permit is surrendered.

### **3.5 Annual Report**

- 3.5.1 The Operator shall annually report a summary of:
- (a) the continuous monitoring reports required by Condition 6.4.8;
  - (b) the periodic monitoring reports required by Condition 6.5.9;
  - (c) incidents reported under Condition 2.4.4;
  - (d) results of any TOC or LOI analysis in the bottom ash under Condition 6.5.6;
  - (e) results of any analysis of the fly ash under Condition 6.6.6;
  - (f) results of any monitoring equipment calibration required to be reported under Condition 6.3.4;
  - (g) waste quantities incinerated as reported under Condition 4.2.3; and
  - (h) each abnormal operating event under Condition 5.3.2.

### **3.6 Environmental Monitoring**

- 3.6.1 The Operator shall carry out a programme of environmental monitoring as specified in Table 3.2. The results shall be recorded and reported.

### **3.7 Roads and Traffic Control**

- 3.7.1 To prevent vehicles queuing on the public highway, waiting areas shall be maintained for vehicles delivering waste to or removing waste from the Permitted Installation.
- 3.7.2 The Operator shall ensure that all roads and surfaces within the Permitted Installation are kept free from mud and other debris to the extent necessary to prevent fouling of the public highway.

### **3.8 Litter, Dust and Vermin**

- 3.8.1 All operations shall be carried out to prevent and minimise the potential escape of litter or dust from the Permitted Installation. Any litter lying within the Permitted Installation shall be removed on a daily basis.
- 3.8.2 All operations shall be carried out so as to minimise the potential presence of insects, birds and vermin. The Permitted Installation shall be inspected at least once per day for the presence of insects, birds or vermin, and a treatment programme shall be undertaken without delay to deal with any identified infestation. The results of each inspection and details of any subsequent treatment shall be recorded.

### **3.9 Commissioning**

- 3.9.1 Until Conditions 3.9.2 to 3.9.8 inclusive have been complied with the Operator shall not carry out any new or substantially changed activities, except as part of the commissioning activities notified to SEPA in compliance with Condition 3.9.3 ("the Commissioning Activities").
- 3.9.2 Prior to carrying out the Commissioning Activities the following shall be tested and demonstrated to be effective during appropriate functional tests:
- (a) the design features necessary to ensure compliance with any condition of this Permit; and
  - (b) the systems required by any condition of this Permit.
- 3.9.3 At least 14 days, or such period as otherwise agreed in writing with SEPA, prior to carrying out any Commissioning Activities the Operator shall notify SEPA in writing of details of the Commissioning Activities to be carried out, including:
- (a) the results of any tests carried out in compliance with Condition 3.9.2;
  - (b) details of the work to be carried out in respect of each test required by Condition 3.9.4;
  - (c) the purpose of said work;
  - (d) details of how said work will be carried out;
  - (e) an assessment of any environmental impact which the said work may have;

- (f) the proposed dates on which the said work will be started and completed; and
- (g) the criteria for determining when the Commissioning Activities have ceased.

3.9.4 When carrying out the Commissioning Activities the Operator shall carry out tests to demonstrate that the Permitted Installation can be operated so as to comply with any condition of this Permit. In addition the Operator shall undertake tests during the commissioning period to assess:

- (a) the control system logic and measurement parameters of the bicarbonate injection system in light of the system response time for control of emissions of acid gases;
- (b) the optimum injection rates of activated carbon and sodium bicarbonate in relation to the extent that ash residues become hazardous and/or exhibit increased solubility fractions in relation to the dosage rates required to achieve emission concentrations below those specified in Table 6.1 for acid gas emissions;
- (c) the flow rate of under fire air during required the ignition mode of each primary gasification chamber and time period of the ignition phase;
- (d) a periodic monitoring exercise (as specified by Condition 6.1.3) of the emission concentrations of all relevant substances released from a bypass stack during credible abnormal operating scenarios;
- (e) the emission concentrations of all relevant substances released from the bypass stacks during start up and shutdown operating scenarios;
- (f) the specification of ash residues in relation to the parameters specified in Table 6.1.3 and Condition 5.1.1(a) and the potential extent for odorous emissions from flue gas cleaning residues;
- (g) the final gasification temperature limit of each of the primary gasification chambers;
- (h) the 95 %ile confidence levels of the continuous emissions monitoring system in relation to the criteria specified in Table 6.2;
- (i) the extent and applicability of the management systems required by condition section 3.10;
- (j) the temperature and flow characteristics of the flue gas re-circulation system and temperature profile of the Urea abatement reagent within the system;
- (k) the satisfactory operation of the standby electrical generation system specified in Schedule 1 and other uninterruptible power supply (UPS) systems;
- (l) monitoring of carbon monoxide concentrations in the synthesis gas produced by each primary gasification chamber for the range of waste types to be incinerated in order to establish the timescale and

temperature profile of the gasification chamber shutdown sequence such that the carbon content of gasifier ashes meets the requirements of condition 5.1.1 (a);

- (m) the means to establish and the finalised extent of the mixed waste specifications derived in accordance with condition 4.3.5;
- (n) the final delivered specification of all relevant raw materials and flue gas treatment reagents;
- (o) the extent of the interlock system installed to ensure compliance with condition 5.1.1 and 5.2.2 (including identification of the exact instrumentation and means of failure of any piece of individual equipment comprising abatement or emissions monitoring system that is inherent to the required interlock system) and the extent of the controls or systems required to trigger emissions via the bypass stack systems;
- (p) quantification of all direct steam losses, cooling system and boiler blowdown losses and condensate return levels;
- (q) the quantification of the concentration of all potentially polluting substances in the cooling water blowdown treatment effluent that is disposed of outwith the installation and in the combined mixture of any other effluents that are disposed of outwith the installation;
- (r) an updated detailed hazard and environmental risk assessment study addressing the following specific requirements:
  - (i) failure of the gas oil supply system and monitoring requirements in relation to the requirements of condition 5.2.1 and 5.2.2;
  - (ii) the potential for fugitive emissions of noxious or toxic gases from the PGC ash handling system;
  - (iii) the means to prevent leakage of synthesis gas from the PGCs and actions to be taken on the detection of such leakage;
  - (iv) additional or modified controls and systems governing the sequencing of the PGCs ignition to minimise the potential for operation of the bypass stacks;
  - (v) failure scenarios of the vent stack operation; and
  - (vi) the sizing, duty and redundancy of the burner systems within each secondary chamber.
- (s) the optimum injection rate of urea addressing; quantification of the variability of the urea solution during storage tank periodic filling operations; the extent that incineration plant ash residues may become odorous; the potential to achieve emissions to air of NO<sub>x</sub> and ammonia of less than 100 mg/Nm<sup>3</sup> and 10 mg/Nm<sup>3</sup> respectively are achieved and; the optimum control set point for the injection system in relation to concentration of NO<sub>x</sub> emissions;

- (t) the effect of cooling tower fan operational control modes on the cooling tower plume dispersion and visibility;
- (u) the system interlocks and operational procedures for emergency scenarios where flue gases are emitted without abatement are minimised as far as possible;
- (v) the provision and design of barrier protection systems on the gas oil circulation system to prevent loss of containment of gas oil from distribution pipe work and the interlock and trip provisions for the pumped gas oil circulation system in the event of leakage from the system,
- (w) the operation of the automatic isolation system on the interceptor on the surface water drainage system servicing Contained Area 1 upon detection of polluting substances specified in Table 6.6 of the permit including quantification of the concentration of each substance at which the interlock system is activated; and,
- (x) the provisions, mechanisms and control philosophy for isolation of each major part of the surface water system prior to any emission to groundwater or surface waters.

3.9.5 For the period of the Commissioning Activities the Operator shall submit a report each month containing a summary of:

- (a) any Commissioning Activities undertaken during the preceding month;
- (b) any tests undertaken during the preceding month;
- (c) the results of any tests received during the preceding month;
- (d) justification for any delays from the dates notified under Condition 3.9.3(f); and
- (e) where appropriate, confirmation that the criteria detailed in the notification required by Condition 3.9.3(g) have been met.

3.9.6 Should any test required by Condition 3.9.4 indicate that the conditions of this Permit have not or cannot be complied with the Operator shall cease carrying on that part of the Commissioning Activities which is the subject of the test, until:

- (a) SEPA has given written permission for said part of the Commissioning Activities to continue; or
- (b) the Operator has proposed in writing to SEPA remedial action to ensure compliance with the conditions of this Permit; and,
- (c) those actions have been agreed with SEPA in writing; and,
- (d) those actions have been implemented.

3.9.7 For the avoidance of doubt, where the circumstances set out in Condition 3.9.6 have occurred, the Operator shall carry out further tests in compliance with Condition 3.9.4.

3.9.8 Within two months of ceasing the Commissioning Activities the Operator shall prepare and submit to SEPA a written report including the following:

- (a) details of all tests carried out under Condition 3.9.4;
- (b) details of, and explanations for, any faults in the plant, equipment or operating procedures identified during said tests that resulted, or may have resulted, in the breach of any condition of this Permit;
- (c) details of any remedial action taken, or to be taken, to overcome any of the said faults;
- (d) where remedial action is to be taken, the date by which each action will be taken, justification of this date and why the Operator believes Commissioning Activities have ceased, despite remedial action still being required; and
- (e) details of deviations from the original operating methodology of the Permitted Activity and justification for such deviations.

3.9.9 No waste shall be accepted at the installation until SEPA has agreed in writing that the following tests and design modifications have been completed satisfactorily:

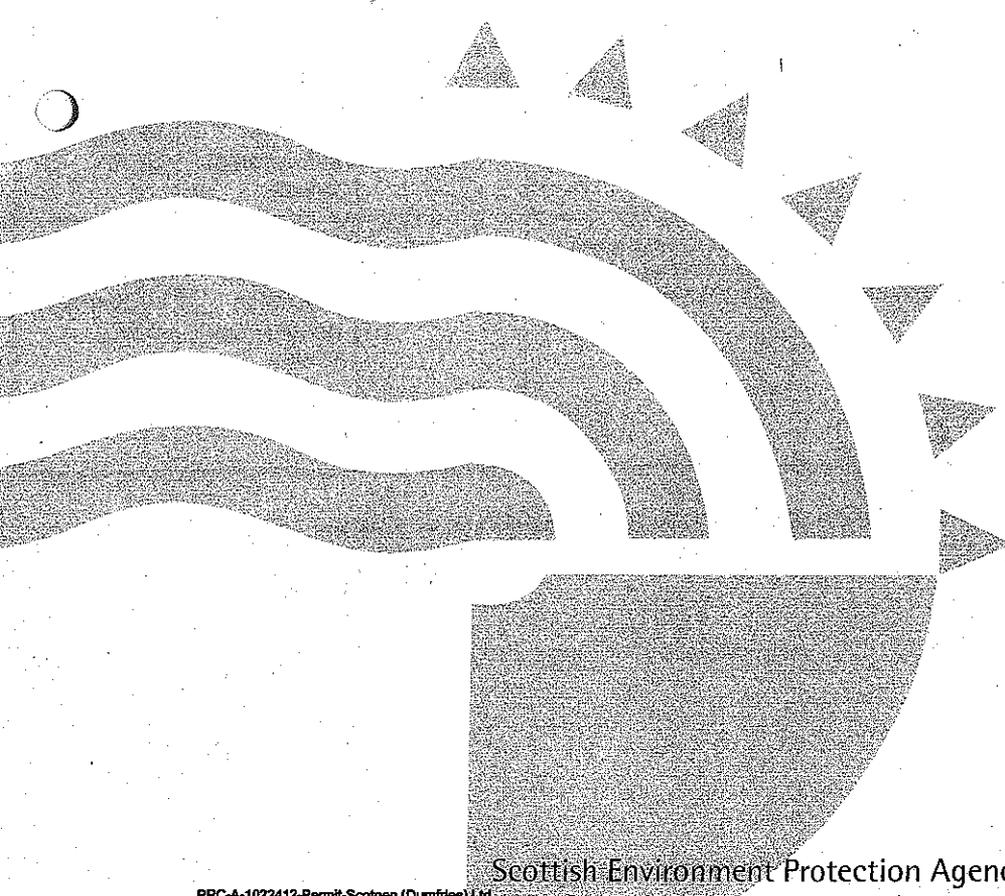
- (a) the containment provisions for Contained Area 1;
- (b) the construction standards and the bunding arrangements for the Hazardous Waste storage area and the fire resistance of the door seals and contingencies procedures for dewatering the bund during a fire are appropriate to minimise the potential for contamination of local ground or surface waters;
- (c) the systems required to ensure that floors and hard standing areas where waste or potential polluting substances could be stored or handled are rendered impermeable;
- (d) review and confirmation of firewater retention capacity of the main building and the likely impacts in the case of loss of this containment and development of a fire and emergency plan with the local Fire and Rescue Services; and,
- (e) integrity testing of all underground pipe work and storage systems for liquid effluents.

### **3.10 Environmental Management and Maintenance Systems**

3.10.1 By 30 August 2009, the Operator shall define, record and implement such operational, management and maintenance systems as are necessary for compliance with the Conditions of this Permit. The systems shall be subject

to documented review at intervals of not more than 4 years.

- 3.10.2 No person shall be permitted to operate the Permitted Activities unless the Operator has notified that person in writing that they are so permitted. The Operator shall ensure that any person permitted to operate the Permitted Activities shall do so subject to any limitations specified in the notification necessary for compliance with the Conditions of this Permit. All such notifications shall be recorded by the Company.
- 3.10.3 All persons having duties associated with the Permitted Activities shall be appropriately trained in said duties. The Operator shall record, or cause to be recorded, any training undertaken as a consequence of this Condition.
- 3.10.4 All plant, instrumentation and buildings used in carrying on the Permitted Activities shall be properly maintained and the maintenance recorded.
- 3.10.5 The systems required by Condition 3.10.1 shall include details showing how the maintenance required, whether under a scheme of planned maintenance or consequent to a breakdown, is to be organised to ensure that emissions of potentially polluting substances are prevented or, where that is not practicable, minimised.



## ANNEX 1 TO SCHEDULE 3

Table 3.1: Noise and Vibration Emission Limits

Emission limit	Monitoring point	Frequency of monitoring	Time of monitoring	Monitoring method
None specified	N/A	Condition 3.1.3	Condition 3.1.3	Condition 3.1.3

Table 3.2: Environmental Monitoring

Environmental measurement (concentration)	Location	Methodology	Prior to operation (Note 1)	During first 2 years of operation	Subsequent years of operation
Dioxins and furans in soil	As agreed in writing with SEPA by the date specified in Table 2.1	As agreed in writing with SEPA by the date(s) specified in Table 2.1	4 samples taken and analysed	8 samples taken and analysed at least once per year	4 samples taken and analysed
Metal elements by species in soil	As agreed in writing with SEPA by the date specified in Table 2.1	As agreed in writing with SEPA by the date(s) specified in Table 2.1	4 samples taken and analysed	8 samples taken and analysed at least once per year	4 samples taken and analysed
Metal elements subject to air quality standards in ambient air	As agreed in writing with SEPA by the date specified in Table 2.1	Ambient concentration expressed as the total content of the relevant pollutant in the PM <sub>10</sub> fraction or as otherwise agreed in writing with SEPA	N/A	As agreed in writing with SEPA by the date specified in Table 2.1	As agreed in writing with SEPA by the date specified in Table 2.1
Sulphur dioxide and oxides of nitrogen in ambient air.	As agreed in writing with SEPA by the date specified in Table 2.1	As agreed in writing with SEPA by the date(s) specified in Table 2.1	N/A	Monthly averages to determine annual mean values	To be agreed in writing with SEPA
The concentration or value of hydrocarbons, pH, TSS, COD, BOD and temperature in receiving waters upstream and downstream of the discharge points SW1 & SW2	As agreed in writing with SEPA by the date specified in Table 2.1	As agreed in writing with SEPA by the date(s) specified in Table 2.1	N/A	Monthly spot samples to determine annual mean values	To be agreed in writing with SEPA

Note 1 One set of 4 samples to be taken prior to the first incineration of any waste

#### **4 CONDITIONS APPLYING TO WASTE RECEPTION, INSPECTION AND STORAGE**

##### **4.1 Permitted Types of Waste**

4.1.1 Subject to any exclusions identified in Column 2 of Table 4.1, and Conditions 4.1.2 and 4.1.3 no waste shall be burned in the Permitted Installation other than the wastes as described in Condition 4.1.2 or specified in Table 4.1.

4.1.2 Notwithstanding Condition 4.1.1, no mixture of wastes shall be fed to any individual primary gasification chamber in the Permitted Installation if:

- (a) the concentration of chlorine in the waste mixture exceeds 1.0 % w/w;
- (b) the concentration of fluorine in the waste mixture exceeds 0.1 % w/w;
- (c) the concentration of sulphur in the waste mixture exceeds 0.8 % w/w;
- (d) the calorific value of the waste is greater than 43 MJ/kg;
- (e) the concentration of mercury and mercury compounds in the waste mixture exceeds 2.5 mg/kg;
- (f) the concentration of cadmium and thallium and compounds of these elements (taken together) in the waste mixture exceeds 15 mg/kg;
- (g) the total concentration of antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium and compounds of these elements (taken together) in the waste mixture exceeds 1000 mg/kg;
- (h) any such wastes in the mixture are classified as hazardous wastes by virtue of the properties defined in Annex III of Directive 91/689/EC (as amended) as H1 (Explosive), H2 (Oxidising), H3A (Highly Flammable but excluding solid substances and preparations which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after the removal of the source of ignition), H3B (Flammable) or H12 (substances and preparations which release toxic gases in contact with water, air or an acid);
- (i) agricultural animal carcasses classified as "animal by-products" within the terms of EC Regulation (1774/2002) and the Animal By-products (Scotland) Regulations 2003 SSI 2003 No 411; or
- (j) the wastes are predominantly in a liquid form.

4.1.3 Clinical wastes shall only be accepted at the Permitted Installations if those wastes are delivered in containers designed to prevent direct handling of those wastes.

4.1.4 Clinical waste shall not be mixed with any other waste or directly handled prior to its addition to the primary gasification chamber.

##### **4.2 Permitted Quantities of Waste**

4.2.1 The aggregate amount of the wastes specified in Condition 4.1.1 that may be incinerated in the Permitted Installation shall not exceed 60,000 tonnes in

any calendar year. The aggregate amount of the hazardous wastes that may be incinerated in the Permitted Installation shall not exceed the quantities specified in Column 3 of Table 4.1.

4.2.2 Each day the Operator shall record the total quantity of waste, and the quantity of each waste specified in Table 4.1 that is incinerated in the Permitted Installation for that day.

4.2.3 The Operator shall record and report the monthly total quantity of all wastes incinerated in the Permitted Installation, and the monthly quantities of each waste specified, in Table 4.1 that is incinerated in the Permitted Installation.

4.2.4 The maximum quantity of waste stored at the Permitted Installation (including waste awaiting dispatch elsewhere) shall not exceed 1100 tonnes in total, of which no more than 220 tonnes shall be hazardous waste and no more than 20 tonnes shall comprise Animal By-products. In the event that the maximum capacity of the storage facilities is reached, no further waste shall be accepted at the Permitted Installation until storage capacity becomes available.

### 4.3 Inspection of Deliveries of Waste for Incineration

4.3.1 The Operator shall not unload, or cause or permit the unloading of, any delivery of waste until it has inspected the waste and its accompanying documentation and concluded it is acceptable for receipt as required by the conditions of this Permit. This inspection shall be completed within 2 hours of that delivery's arrival at the Permitted Installation.

4.3.2 Where the Operator refuses any person permission to deposit waste at the Permitted Installation the Operator shall take all reasonable steps to obtain the following details: name and address of person; registration number of vehicle; quantity and type of waste; and date and time of refusal. The recorded details of the refusal shall be reported.

4.3.3 Wastes that are accepted and subsequently found not to conform to the conditions of this Permit shall be immediately removed to the designated compound/area required by Condition 4.5.11. Where waste is sorted on site in order to segregate waste that cannot or is not permitted to be incinerated, the segregated portion of the waste shall be stored in the designated compound required by Condition 4.5.11 pending removal from the Permitted Installation. The 6-figure EWC number, type and quantity of any waste sent elsewhere for disposal or recovery shall be recorded.

4.3.4 Where waste is accepted and it is subsequently not possible to incinerate that waste due to failure of the incineration plant, and where the Operator removes that waste from the Permitted Installation, the 6-figure EWC number, the type and quantity of the waste and the final destination of the waste shall be recorded.

4.3.5 The Operator shall establish, record and implement a system such that an "acceptable waste mixture specification" is developed, updated and recorded for each type of the typical waste mixtures fed to the gasification chambers that is, or is likely to be, consistent with satisfactory operation of the Permitted Installation such that it conforms with the conditions of this permit. The "acceptable waste mixture specification" shall:

- (a) detail the precise mix of individual waste streams that can be loaded into any gasification chamber for each individual typical waste mixture; and
- (b) be updated on an appropriate timescale to address typical variations in the composition of each waste comprising the mixture.

4.3.6 The Operator shall develop, implement and record a documented system to address the requirements of Condition 4.3.5. The extent and detail of the system shall be agreed in writing with SEPA by 1 July 2009. The system shall establish, document, record and implement a programme of waste inspection, sampling and analysis that:

- (a) demonstrates that the relevant characteristics of waste or fuel lie within the acceptable range for satisfactory operation of the incinerator specified in Schedule 1;
- (b) specifies the actions required to either arrange for an alternative disposal route for the waste or modify the composition of the waste if the relevant characteristics lie outside the acceptable range;
- (c) specifies the circumstances under which, and the minimum frequencies at which, sampling and analysis shall occur to demonstrate that the mixture does not exceed the concentrations of those individual substances specified in Condition 4.1.2 and,
- (d) specifies the sampling protocols, determinants and analytical techniques.

4.3.7 A dedicated area shall be maintained for the handling or mixing of wastes that is undertaken on impermeable floor surfaces within the enclosed processing building with suitable containment measures to prevent emissions to the environment. The structure and integrity of the floor in this area shall be inspected routinely. Where such inspections identify failures in the structure or integrity of this surface, which could result in pollution of groundwater, repairs to the surface shall be made. Records of the time, date and findings of such inspections and any repair works shall be maintained.

#### **4.4 Record Keeping for Deliveries of Waste for Incineration**

4.4.1 Waste shall not be accepted onto the Permitted Installation unless, as a minimum, the information specified in Table 4.2 is recorded.

4.4.2 Prior to the acceptance of hazardous waste for incineration onto the Permitted Installation, the Operator shall check the documents accompanying that delivery of hazardous waste. The carrying out of all such checks shall be recorded.

4.4.3 The Operator shall, unless it considers it inappropriate, take and analyse representative samples of hazardous waste deliveries prior to that hazardous waste being unloaded to check conformance of that waste with the documentation accompanying it. The results of all analysis and the outcome of the conformance check shall be recorded.

4.4.4 All samples taken in accordance with Condition 4.4.3 shall be retained on the Permitted Installation, or at another location agreed in writing with SEPA, for at least one month after that delivery of waste has been incinerated.

4.4.5 In the event that the Operator considers that it is inappropriate to sample any hazardous waste delivery, or that it is not possible to take samples prior to that waste being unloaded, the Operator shall record the reasons why a sample was not taken, or was not taken prior to that delivery being unloaded.

#### **4.5 Storage of Wastes for Incineration**

4.5.1 The unloading of vehicles delivering wastes shall take place only within a designated area in the enclosed processing building and Contained Area 1 which is provided with hardstanding, and which is impermeable and served by a drainage system that allows the isolation of any spillage from the waste, or rainwater contaminated by the waste.

4.5.2 Each waste storage area shall be clearly labelled. The label shall identify the material permitted to be stored in the area and any hazardous properties. This information shall be legible from outwith the storage area.

4.5.3 No waste shall be transferred to the waste storage areas until the physical and chemical composition of the waste has been determined and an assessment has been carried out to ensure that waste is compatible with the wastes already stored in these storage areas, and the precautions to be taken in handling the waste have been determined. The composition and compatibility assessment shall be recorded.

4.5.4 No waste shall be transferred to the waste storage areas until it has been determined there is sufficient storage capacity in the said storage area.

4.5.5 All areas used to store waste, including residues from the incinerator, shall be constructed of such materials and sealed to prevent the release of pollutants, and be covered to prevent the ingress of rainwater.

4.5.6 All containers being used to store any liquids shall be located in a bund. The minimum capacity of any bund shall be at least 110% of the capacity of the largest container stored within it, or 25% of the total capacity of all containers within the bund, whichever is greater. In the event of any containers being connected to one another, they shall be treated as one container.

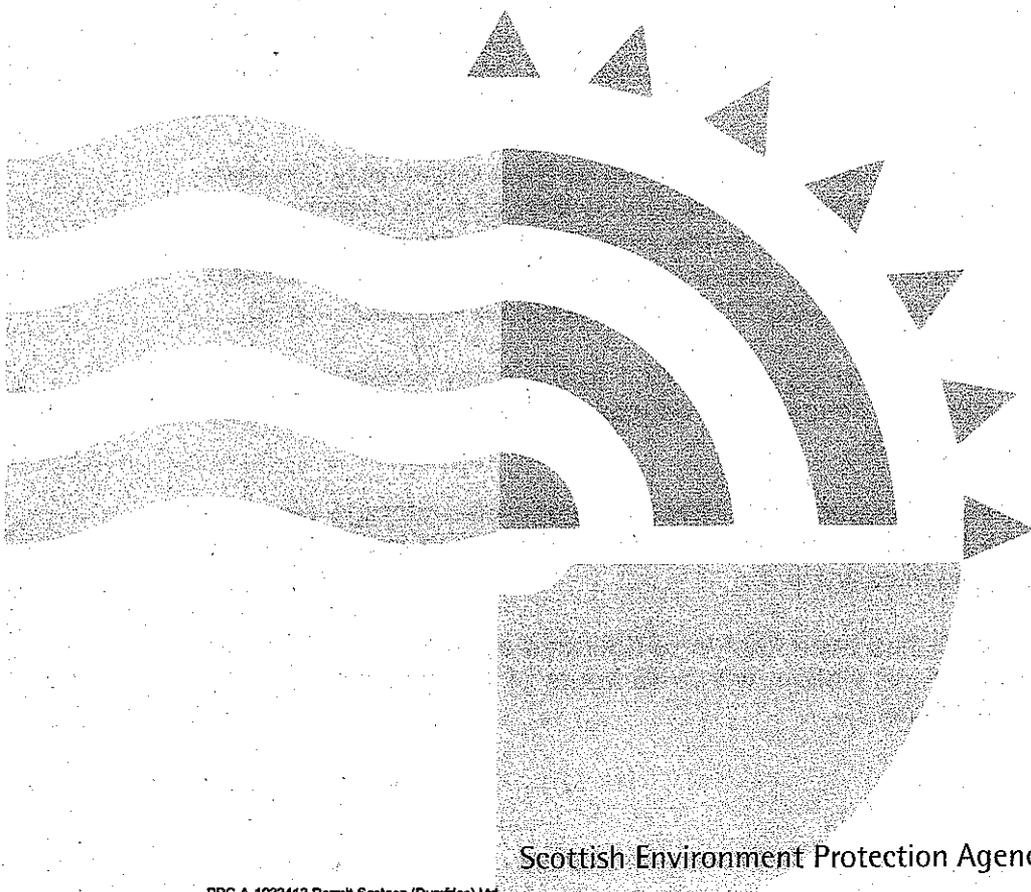
4.5.7 The bunded area and containers shall conform to the following standards:

- (a) the walls and base of the bund shall be impermeable;
- (b) the base shall drain to a sump;
- (c) all taps, valves, any disconnectable loading or unloading pipes and every part of each container shall be located within the area served by the bund;
- (d) vent pipes shall be directed downwards into the bund;
- (e) no part of the bund shall be within 10 metres of a watercourse; and

- (f) any accumulation of rainwater, spillages or leaks within the bund shall be removed as necessary to maintain its effectiveness.
- 4.5.8 Without prejudice to the requirements of Conditions 3.4.1 to 3.4.5 any spillages of waste, fuel or other liquids shall be cleaned up without delay. A supply of a suitable absorbent material shall be kept on site to deal with any such spillages.
- 4.5.9 The Operator shall undertake and record annual inspections of all:
- (a) above ground, below ground, or partially below ground, structures including vessels, sumps, bunds, drains; and pipework, sufficient to determine the integrity of the structures;
  - (b) camera surveys and intergrity testing of the drainage systems within Contained Area 1;
  - (c) waste storage areas;
  - (d) seals in the building floor and in all pipe work penetrations; and
  - (e) hardstanding and road surfaces, both indoors and outdoors.
- 4.5.10 A written report of each assessment required by Condition 4.5.9 and its findings shall be maintained and where one or more discontinuities are identified in any structure these should be identified on a suitably scaled site plan and a full description of the discontinuity provided and an assessment of the likely nature and extent of any pollution which may have resulted from each discontinuity identified shall be provided. Proposals for repair/replacement of any discontinuities and associated timescale shall be reported to SEPA.
- 4.5.11 A designated facility shall be provided for the storage of any wastes found on the Permitted Installation that are not authorised by this Permit. This area shall be kept clear at all times pending the deposit of such wastes and shall be located within the enclosed processing building or the Hazardous Waste storage area.
- 4.5.12 All storage areas shall be cleared of all wastes at least once every 2 weeks and the area thoroughly cleaned. The date and time of such cleaning shall be recorded. A thorough inspection of the integrity of the floor area and any seals in each area shall also be undertaken and recorded. Any required repairs to such areas shall be documented as specified in condition 4.5.10.
- 4.5.13 Subject to Conditions 5.1.1 to 5.1.8 and 5.2.1 to 5.2.4 any accepted load of infectious clinical waste or Animal By-products shall be incinerated as soon as practical, and in any case:
- (a) where the waste has not been kept in refrigerated storage since its arrival at the Permitted Installation: within 24 hours of being delivered to the Permitted Installation; or
  - (b) where the waste has been kept in refrigerated storage since its arrival at the Permitted Installation, within 48 hours of being delivered to the Permitted Installation.

4.5.14 The period of storage of odorous wastes (or wastes that may have the potential to become odorous) during non-operation of the incineration plant when negative pressure cannot be maintained within the enclosed processing building shall be minimised and in any case shall not exceed 24 hours. Any transfer of wastes from the installation in such circumstances shall be notified to SEPA as an incident in compliance with Conditions 2.4.2 to 2.4.4. The Operator shall keep records of such transfers in accordance with Condition 4.3.4.

4.5.15 The Operator shall not handle or transport Hazardous Wastes in areas outwith Contained Area 1 or outwith designated areas within the main processing building other than on first receipt of the waste at the installation or on transfer of the waste to the Stationary Technical Unit for incineration.



## ANNEX 1 TO SCHEDULE 4

Table 4.1: Permitted Waste Types

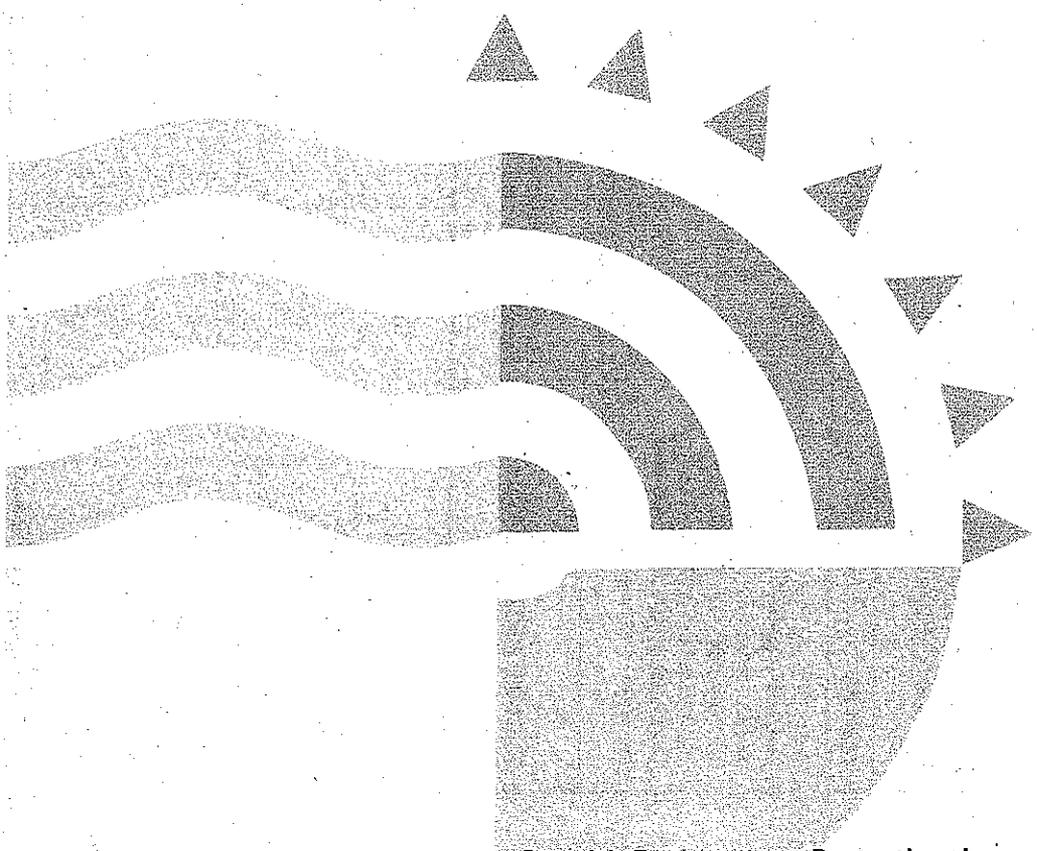
Wastes permitted to be incinerated		Maximum quantity (tonnes per annum)
EWC index number	Description	
<b>Non-Hazardous Wastes</b>		
02-01-XX, 02-02-XX	Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting & Fishing, Food Preparation & Processing	1,000 tonnes
02-03-XX, 02-04-XX		
02-05-XX, 02-06-XX		
02-07-XX		
03-01-XX and 03-03-XX	Wastes from wood processing and the production of panels etc	1,920 tonnes
04-02-XX	Wastes from the textile industry	1,920 tonnes
05-01-XX	Wastes from petroleum refining	960 tonnes
07-01-XX, 07-02-XX	Wastes from organic chemical processes	960 tonnes
07-03-XX, 07-04-XX		
07-05-XX, 07-06-XX		
07-07-XX		
08-01-XX, 08-02-XX,	Wastes from the Manufacture, Formulation, Supply and Use of Coatings (Paints, Varnishes and Vitreous Enamels), Adhesives, Sealants and Printing Inks	5,000 tonnes
08-03-XX, 08-04-XX		
09-01-XX	Wastes from the Photographic Industry	500 tonnes
12-01-XX and 12-03-XX	Wastes from Shaping & Physical & Mechanical Surface Treatment of Metals and Plastics	1,000 tonnes
14-06-XX	Waste organic solvents, refrigerants and foam/aerosol propellants	960 tonnes
15-01-XX and 15-02-XX	Waste packaging and absorbents, filter materials, wiping cloths and protective clothing	5,700 tonnes
16-01-XX, 16-03-XX,	End of life vehicles and their dismantling and maintenance, off specification batches, wastes from tanks, tank storage and barrel cleaning and spent catalysts	1,860 tonnes
16-07-XX and 16-08-XX		
17-02-XX, 17-03-XX,	Construction and demolition wastes	1,000 tonnes
17-06-XX, 17-09-XX		
18-01-XX and 18-02-XX	Wastes from Human Health Care and/or research	9,540 tonnes

19-02-XX, 19-03-XX, 19-05-XX, 19-06-XX, 19-08-XX, 19-09-XX, 19-10-XX, 19-11-XX and 19-12-XX,	Wastes from Waste management facilities, off site waste water treatment plants and the preparation of water intended for human consumption and water from industrial use	1,000 tonnes
20-01-XX and 20-03-XX	Municipal wastes including separately collected fractions	28,560 tonnes
<b>Hazardous Wastes</b>		
02-01-08	Agrochemical waste containing dangerous substances	1,000 tonnes
03-01-04	Sawdust, shavings, cuttings, wood, particle board etc containing dangerous substances	1,920 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 03 - XX - XX specified above
04-02-14	Wastes from finishing containing organic solvents	1,920 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 04 - XX - XX specified above
04-02-16	Dyestuffs and pigments containing dangerous substances	
04-02-19	Sludges from on site effluent treatment containing dangerous substances	
05-01-09	Sludges from on site effluent treatment containing dangerous substances	
05-01-2 to 05-01-09	Hazardous wastes from petroleum refining	10,000 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 05 - XX - XX specified above
06-13-02 and 06-13-05	Soot and spent activated carbon (not arising on the installation) from inorganic chemical processes	2,000 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 06 - XX - XX specified above
07-01-08, 07-01-11, 07-02-08, 07-02-11, 07-02-14, 07-03-08, 07-03-10, 07-03-11, 07-04-08, 07-04-10, 07-04-11, 07-04-13, 07-05-08, 07-05-10, 07-05-11, 07-05-13, 07-06-08, 07-06-10, 07-06-11, 07-07-08, 07-07-10 and 07-07-11	Still bottoms, reaction residues, sludges and sludges from effluent, treatment plants, wastes additives containing dangerous substances, filter cakes, spent adsorbents and solid wastes containing dangerous substances from organic chemical processes	5,000 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 07 - XX - XX specified above
08-01-11, 08-01-13, 08-01-17, 08-01-21, 08-03-12, 08-03-14, 08-03-17, 08-04-09 and 08-04-11	Waste paint and varnish containing organic solvents or other dangerous substances, sludges from paint or varnish removal containing organic solvents or other dangerous substances, wastes from paint or varnish remover, waste ink containing dangerous substances, ink sludges containing dangerous substances, waste printing toner containing dangerous substances, waste adhesives and sealants containing organic solvents or other dangerous substances and adhesives and sealant sludges	5,000 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 08 - XX - XX specified above

12-01-12 and 12-03-12	containing organic solvents or other dangerous substances Spent Waxes and Fats and Steam Degreasing Wastes	1,000 tonnes
14-06-04 and 14-06-05	Sludges or solid wastes containing halogenated or other solvents	960 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 14 -06-XX specified above
15-01-10 and 15-02-02	Packaging containing residues or contaminated with dangerous substances and absorbents, filter materials, wiping cloths and protective clothing contaminated with dangerous substances	10,000 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 15 -XX-XX specified above
16-01-07, 16-01-21, 16-03-03, 16-03-05, 16-07-08	Oil filters, hazardous components (not including 16-01-07 and 16-01-11 and 16-01-13 to 14), organic wastes containing dangerous substances, wastes containing oil or other dangerous substances spent catalysts contaminated with dangerous substances	10,000 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 16 -XX-XX specified above
17-02-04, 17-03-01, 17-03-03, 17-06-03 and 17-09-03	Glass, plastic and wood containing or contaminated with dangerous substances, bituminous mixtures containing coal tar, coal tar and tarred products, insulation materials consisting of or containing dangerous substances and construction and demolition wastes containing dangerous substances	2,000 tonnes
18-01-08	Cytotoxic and cytostatic medicines	9,540 tonnes
19-02-04, 19-02-05, 19-02-06, 19-02-09, 19-02-11, 19-03-04, 19-03-06, 19-08-06, 19-08-07, 19-08-10, 19-10-03, 19-10-05, 19-11-02, 19-11-05, 19-11-07, 19-12-06 and 19-12-11	Premixed and other hazardous wastes, sludges from physico/chemical treatment containing dangerous substances, solid combustible wastes containing dangerous substances, solidified or partly stabilised hazardous wastes, saturated/spent ion exchange resins, sludges from regeneration of ion exchangers, grease and oil mixtures from oil/water separation (other than 19-08-09), fluff-light fraction and dust and other fractions containing dangerous substances, acid tars, wastes from flue gas cleaning, sludges from on site effluent treatment containing dangerous substances, wood containing dangerous substances and other wastes from mechanical treatment of waste containing dangerous substances	5,000 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 19 -XX-XX specified above
20-01-26, 20-01-27 and 20-01-37	Oil and fat (other than 20-01-25), paints, inks, adhesives and resins containing dangerous substances and wood containing dangerous substances	8,560 tonnes in total in combination with non hazardous wastes falling within the generic EWC heading 20 -XX-XX specified above

**Table 4.2: Waste Delivery Record**

<b>Information required to be kept for each delivery of waste for incineration</b>
The source and origin(s) of the waste for incineration comprising the delivery, including the name(s) and address(es) of the waste generator(s) and the weight of each waste arising from outside the Dumfries and Galloway Waste Strategy Area (expressed as a aggregate percentage of total waste incinerated).
The identity of the person who transported the delivery to the premises, and the registration number of the vehicle used to make the delivery.
The date and time of the delivery of the waste
The quantity of each type of waste (in tonnes) and the 6 figure EWC number for each type of waste in the delivery.
The physical and as far as practicable the chemical composition of any hazardous waste and all other information necessary to validate that the waste can be suitable for incineration in the incinerator
The hazardous characteristics of the waste, the substances with which it could not be mixed and the precautions to be taken in handling that hazardous waste.



## **5 CONDITIONS APPLYING TO THE OPERATION OF THE INCINERATOR**

### **5.1 Incineration Process Operation**

5.1.1 The incinerator shall be operated such that:

- (a) the unburned organic carbon present in the slag and bottom ashes is reduced to a minimum, and in any case such that the Total Organic Carbon (TOC) content is less than 3% or loss on ignition of the gasifier bottom ashes is less than 5% of the dry weight of the ashes;
- (b) the residue from the plant is reduced to a minimum, in amount and harmfulness;
- (c) an oxygen concentration of not less than 3% by volume (expressed in terms of wet gas) is maintained in the flue gases exiting the secondary combustion chamber;
- (d) the temperature of the flue gases exiting each secondary combustion chamber is maintained at a temperature of not less than 1,100°C whenever waste gasification is occurring in any of the primary gasification chambers connected to each secondary combustion chamber (as determined in accordance with Condition 5.2.6); and,
- (e) the gas residence time in each secondary combustion chamber is not less than 2 seconds, even under the most unfavourable operating conditions anticipated.

5.1.2 No waste shall be fed to any primary gasification chamber unless:

- (a) the waste mixture is loaded in the most appropriate manner to ensure that complete incineration can occur;
- (b) the composition of the waste does not exceed the limits on those parameters specified in condition 4.1.2;
- (c) the assessments required by condition 5.1.8 have been completed and recorded; and,
- (d) all necessary sampling and analysis has been undertaken as required by condition 4.3.6.

5.1.3 No fuel, other than gas oil conforming to BS 2869 Pt 2 (or any subsequent amendments to that standard) with a sulphur content of less than 0.1% (weight basis), shall be used in the Permitted Activities.

5.1.4 The Operator shall record the rate at which the waste is fed into the incinerator in each day.

5.1.5 Whenever any waste is burnt in the incinerator, the Operator shall continuously measure and record:

- (a) the concentration of oxygen in the flue gases exiting each secondary combustion chamber at the exit of the boiler system;

- (b) the temperature of the flue gases exiting each secondary combustion chamber prior to the boiler superheater;
  - (c) the temperature of the flue gases entering and exiting each flue gas reaction tower,
  - (d) the temperature of the flue gas in each flue gas re-circulation system at the point that flue gases enter the secondary combustion chamber;
  - (e) the temperature of the flue gas at the entry to each bag filter system; and,
  - (f) the temperature of the gases exiting each primary gasification chamber at the point that the gases from each chamber enter the secondary combustion chamber.
- 5.1.6 The measured value of each concentration or parameter required to be continuously monitored by Condition 5.1.5 shall be electronically recorded at least once during each period of 30 seconds, and the time and date of each recorded measured value shall also be recorded.
- 5.1.7 The electronic recording system required by Condition 5.1.6 shall incorporate an appropriate means of alerting the Operator of any potential non-compliance with Conditions 5.1.1(c) or 5.1.1(d) or any of the concentrations required to be continuously monitored by Table 6.1.
- 5.1.8 The Operator shall develop, document and implement suitable systems and procedures for the inspection of the door gas sealing systems and the air distribution system in each primary gasification chamber. Such systems shall also address the means for the removal of any blockages in the air distribution or the repair/replacement of door sealing systems prior to the loading of waste into each gasification chamber. A record shall be kept of the extent of each inspection and any remedial actions undertaken.

## 5.2 Control Systems and Interlocks

- 5.2.1 Each secondary combustion chamber shall be equipped with auxiliary burners using only the fuels specified in Condition 5.1.3. The auxiliary burner shall automatically switch on to prevent the temperature of flue gases exiting from the secondary combustion chamber falling below the temperature specified in Condition 5.1.1(d) whenever waste gasification is occurring in any of the primary gasification chambers connected to that secondary combustion chamber. Automatic interlocks shall be provided and maintained to ensure that waste cannot be loaded into or ignited in any primary gasification chamber if:
- (a) the temperature of the flue gases exiting the secondary combustion chamber connected to that primary gasification chamber is less than the minimum required by Condition 5.1.1(d); and,
  - (b) any of the continuous monitoring devices required by Condition 6.1.3 show that the corresponding emission limit value is being exceeded as a result of a failure or disturbance to a flue gas abatement system.

5.2.2 Other controls and systems shall be provided and maintained to ensure that no waste can be fed to the primary gasification chambers in the event of:

- (a) any fan supplying combustion air to the gasifier or secondary combustion chamber fails, or is not operating at the appropriate rate;
- (b) the sodium bicarbonate or activated carbon injection system fails, or are not operating at the appropriate rate;
- (c) the induced draught fan fails, or is not operating at the appropriate rate;
- (d) the oxygen concentration of the flue gases exiting the secondary combustion chamber is less than the minimum required by Condition 5.1.1(c);
- (e) the monitoring required by Condition 5.1.5(a) is not taking place;
- (f) the temperature monitoring required by Condition 5.1.5(b) is not taking place;
- (g) any of the continuous monitoring required by Condition 6.1.3 is not taking place;
- (h) there is a loss of fuel supply to the auxiliary burner;
- (i) there is a loss of electrical power to the permitted activity, or to any of its safety systems;
- (j) any emission is made from the bypass stacks specified in Table 6.1;
- (k) when the temperature of the primary gasification chamber is in excess of that required for deashing;
- (l) the operational cycle of the primary gasification chamber is incomplete or in the wrong phase of the batch cycle; or
- (m) the temperature of the flue gases at the inlet to the bag filter system exceeds 220°C.

5.2.3 A risk assessment shall be carried out and recorded to determine the correct maintenance and test frequency of each control and/or interlock required by Conditions 5.2.1 and 5.2.2. A procedure shall be developed, documented, implemented and maintained for the testing and maintenance of the controls and interlocks. As a minimum, the controls and interlocks shall be tested and maintained at the frequency indicated by the manufacturers. Each such test, and its conclusions, shall be recorded.

5.2.4 If a test required by Condition 5.2.3 identifies that any control and interlock does not operate in line with its specification, the incinerator shall not be operated until the correct operation of the control and interlock has been restored. Any remedial action required to reinstate the control and interlock, including times and dates thereof, shall be recorded.

5.2.5 A record shall be kept of all times when the incinerator is operating and the heat recovery system is not utilised with the reason for the non-utilisation.

5.2.6 The isolation system on the interceptor on the drainage system servicing Contained Area 1 shall be activated automatically upon detection of the parameter or concentration of polluting substances specified in Table 6.6 in excess of the specified parameter or concentration value. The specified concentration value for each parameter or pollutant shall be agreed in writing with SEPA.

### 5.3 Abnormal Operating Conditions

5.3.1 In the event of a stoppage, disturbance or failure of an abatement device that may result in any emission limit value specified in this Permit being exceeded, no additional waste shall be fed to the primary gasification chambers until that stoppage, disturbance or failure has been rectified.

5.3.2 In the event of a stoppage, disturbance or failure of an abatement device, which results, or will result, in any emission limit value specified in this Permit being exceeded, or the failure of a measurement device (other than a device for measuring the concentration of particulate matter, carbon monoxide or gaseous and vaporous organic substances, or a device for monitoring the temperature of the combustion gases at the exit of the secondary combustion chamber), the Operator shall only continue to incinerate waste already present in the primary gasification chambers if:

- (a) the Operator has reasonable grounds for believing that the stoppage, disturbance or failure can be corrected within a period of less than 4 hours beginning with the time of the first breach of an emission limit value;
- (b) the period of exceedance of any emission limit value does not exceed 4 consecutive hours;
- (c) the total time that one or more emission limit values have been exceeded because of such a stoppage, disturbance or failure during any year does not exceed 60 hours;
- (d) no 30 minute average reported values recorded as required by Condition 6.4.5 in respect of particulate matter exceeds  $150 \text{ mg/Nm}^3$ ;
- (e) the requirements of Condition 6.1.3, as regards continuous monitoring, are fully complied with;
- (f) no reported values recorded as required by Condition 6.4.7 in respect of carbon monoxide shall exceed the limits in Table 6.1;
- (g) no reported values recorded as required by Condition 6.4.5 in respect of total organic carbon shall exceed the limits in Table 6.1;
- (h) any one or more of the 30 minute mean emission limit values on releases to air, specified in any condition of this Permit, have been breached but predictions indicate compliance on a cumulative basis with the allowed annual percentage of breaches of 30 minute mean emission limit values specified by this Permit;

- (i) the oxygen content and temperature of the flue gases exiting the secondary combustion chamber comply with the requirements of Conditions 5.1.1(c) and 5.1.1(d) ; and
- (j) the Operator records in writing the information specified in Condition 5.3.3 pertaining to the period of any breach of any relevant emission limit value as soon as is reasonably practicable.

5.3.3 The following information shall be recorded for the purposes of compliance with Condition 5.3.2(j):

- (a) the time and date the period of the exceedance of the emission limit value began;
- (b) the cause of the period of the exceedance of the emission limit value;
- (c) the Operator's justification of why the cause of the period of exceedance of the emission limit value was unavoidable;
- (d) the Operator's justification of why the period of exceedance of the concentration limit can be brought to an end before it reaches a duration of 4 hours;
- (e) the nature, timing and consequences of all work undertaken by the Operator for the purpose of bringing the period of exceedance of the emission limit value to an end; and
- (f) the time and date the period of exceedance of the emission limit value was brought to an end, and whether this was achieved by shutting down the incinerator.

5.3.4 In the event of a failure of any continuous measurement device required by any condition of this Permit, no additional waste shall be fed to the primary gasification chambers until the cause of the failure has been remedied to prevent a similar failure mode or malfunction, and that continuous monitoring device is working properly.

5.3.5 If waste feed is stopped due to the failure of any continuous measurement device, the Operator shall record:

- (a) the date, time and duration of the downtime of the continuous measurement device, and of the incinerator;
- (b) the cause of the failure or malfunction and any action taken to rectify the failure or malfunction; and
- (c) any actions proposed to prevent a similar failure mode or malfunction recurring.

5.3.6 In the case of a breakdown of any plant, machinery or equipment that leads to, or may lead to a breach of any condition of this Permit, the Operator shall reduce or close down those parts of the Permitted Installation that are affected by the breakdown as soon as practicable until normal operations can be restored. Where any said breakdown affects upstream or downstream operations within the Permitted Installation in a manner which

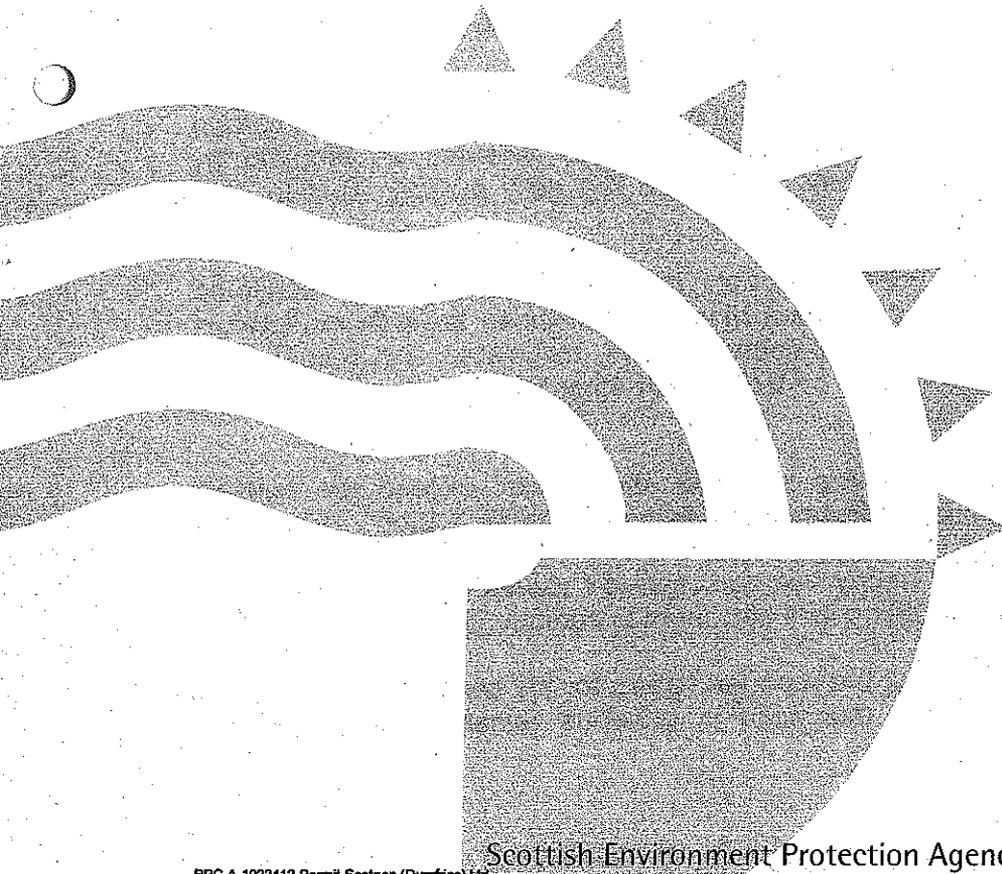
leads to, or may lead to, a breach of any condition of this Permit, those operations so affected shall also be reduced or closed down as soon as practicable until normal operations can be restored.

- 5.3.7 No waste shall be fed any primary gasification chamber during a failure or malfunction of a continuous monitoring device specified by this permit until the cause of the failure has been investigated and remedied to prevent a similar failure mode or malfunction, and that continuous monitoring device is working properly. Such a failure shall be viewed as an incident for the purposes of Condition 2.4.1 to 2.4.4, and the report required by Condition 2.4.4 in respect of any such occasion shall include the matters required to be recorded by Condition 5.3.5.

#### 5.4 Upgrading Requirements

- 5.4.1 By 30 May 2009, or any other date that may be agreed in writing with SEPA, the Operator shall submit to SEPA a proposed methodology to demonstrate compliance with Condition 5.1.1(e) and Condition 5.1.1(d) in comparison to relevant requirements such as those outlined in Environment Agency R&D Technical Report P4-100/TR Part 2 (Validation of Combustion Conditions) November 2001 ISBN 1-58705-718-X. This methodology shall specifically detail how the verification of temperature and residence time requirements are to be assessed during the most unfavourable conditions when the mass flow and CV of gases from the primary gasification chambers feeding the secondary combustion chamber lie outside standard operating parameters.
- 5.4.2 By 30 December 2010, and every 2 years thereafter, the Operator shall assess and report to SEPA the feasibility of installing a system to enhance the efficiency of the permitted Installation by the use of thermal energy in a combined heat and power configuration. The analysis shall address all relevant opportunities for thermal energy use within the locale of the installation including district heating schemes within local infrastructure developments.
- 5.4.3 By 30 November 2009, the Operator shall develop and implement a system to estimate the overall efficiency of each incineration stream on a real time basis based on the losses method of calculation. Every 2 years thereafter, the Operator shall assess and report to SEPA the possible means for enhancing the efficiency of the incineration activity based on the data gathered by the continuous efficiency monitoring system and by considering other means including, but not limited to, reducing excess air levels, increasing flue gas re-circulation rates, reducing direct use steam losses or further optimisation of steam parameters.
- 5.4.4 By 28 February 2010, the Operator shall assess and report to SEPA the feasibility of installing a pollutant monitoring system, to be utilised in the event of the use of the bypass stack systems where flue gases circumvent the facilities for treating the exhaust gases.
- 5.4.5 By 28 February 2011, and every two years thereafter, the Operator shall undertake a review of the costs and benefits of installing continuous monitoring systems for dioxins and metals emitted from each incineration line. The review shall specifically address the availability of suitable

monitoring systems and the extent that such systems have been adopted by other installations. The conclusions of the review shall be reported to SEPA.



## 6 CONDITIONS APPLYING TO EMISSIONS FROM THE INCINERATION PROCESS

### 6.1 Air Emission Conditions and Limits

- 6.1.1 Subject to Condition 6.1.11 the emissions to air specified in Table 6.1, shall only be permitted from the emission locations specified in that Table and shall comply with the criteria in Conditions 6.1.6 to 6.1.10.
- 6.1.2 Any percentage limit specified in Table 6.1 shall be based on the averaging period and time span specified in Table 6.2, where the percentage is the percentage of averaging periods within the time span that must not exceed the percentage limit. Compliance with the limits specified in Table 6.1 shall be assessed as described in Conditions 6.4.1 to 6.4.8.
- 6.1.3 The Operator shall carry out continuous (C) monitoring and periodic monitoring (also known as spot sampling, SS) of emissions of the parameters specified in Tables 6.2 and 6.3 respectively, at the sampling location specified in Table 6.1 and subject to the requirements for monitoring specified in Tables 6.2 and 6.3.
- 6.1.4 For any parameter specified in Table 6.1 other than oxygen, visible plume, smoke or odour, all results of monitoring carried out under Condition 6.1.3 shall be corrected to the reference conditions 273K, 101.3 kPa, and at the relevant oxygen concentration specified in Condition 6.1.5. The results of all tests and data used to correct the monitoring results to the reference condition specified in this Condition shall be recorded.
- 6.1.5 For the purposes of Condition 6.1.4, the relevant oxygen concentration shall be whichever is the lower of the measured oxygen concentration expressed as v/v in dry gas, or 11.0 % oxygen v/v, dry gas.
- 6.1.6 No continuously monitored daily average concentration in gaseous releases other than carbon monoxide, calculated and recorded as required by Conditions 6.4.1 to 6.4.7, shall exceed the daily average limit for that parameter in Table 6.1.
- 6.1.7 At least 97% of continuously monitored daily average concentration of carbon monoxide in gaseous releases, calculated and recorded as required by Conditions 6.4.1 to 6.4.7, shall not exceed the daily average limit for that parameter in Table 6.1.
- 6.1.8 Subject to Condition 5.3.2 the reported values for the continuously monitored concentrations, other than carbon monoxide, of those substances listed in column 2 of Table 6.1 in gaseous releases, calculated and recorded as required by Conditions 6.4.1 to 6.4.7, shall comply with at least one of the criteria stipulated below:
- (a) no half hourly average reported values shall exceed the relevant concentration limit stipulated in column 4 of Table 6.1; or
  - (b) 97% of the half hourly average reported values shall not exceed the relevant concentration limit stipulated in column 5 of Table 6.1.
- 6.1.9 Subject to Condition 5.3.2 the reported values for the continuously monitored concentration of carbon monoxide in gaseous releases, calculated and

recorded as required by Conditions 6.4.1 to 6.4.7, shall comply with at least one of the criteria stipulated below:

- (a) no half hourly average reported values shall exceed the relevant concentration limit stipulated in column 4 of Table 6.1; or
- (b) 95% of the 10 minute average reported values shall not exceed the relevant concentration limit stipulated in column 5 of Table 6.1.

6.1.10 All reported values for the concentration of those periodically monitored substances listed in column 2 of Table 6.1 in gaseous releases, calculated and recorded as required by Conditions 6.5.8, shall not exceed the relevant concentration limit stipulated in column 6 of Table 6.1.

6.1.11 In respect of each occasion of abnormal operation detailed in Condition 5.3, no half hourly average reported value concentration in gaseous releases, calculated and recorded as required by Conditions 6.4.1 to 6.4.7, shall exceed the relevant concentration limit stipulated in Conditions 5.3.2(d), 5.3.2(f) and 5.3.2(g).

6.1.12 The Operator shall record and report the mass emission results for the parameters of the combined emissions specified in Table 6.4, using the method agreed in writing with SEPA (as summarised in Table 6.4). This information shall be reported in a format agreed in writing with SEPA.

6.1.13 Information used to estimate mass emissions in compliance with Condition 6.1.11 shall be recorded for each estimate.

6.1.14 Emissions to air from the bypass stacks specified in Table 6.1 may only be made, if:

- (a) this course of action is necessary to avoid mechanical failure of the plant or equipment damage following an unexpected equipment malfunction; and
- (b) no waste is fed to the primary gasification chambers whilst an emission is being made to air via the bypass stacks.

6.1.15 In respect of each occasion when any emission is made from the bypass stacks specified in Table 6.1, the Operator shall record:

- (a) the time and date the emissions commenced and ceased;
- (b) a qualitative assessment of the nature of the emissions;
- (c) an explanation of why the emissions were made; and
- (d) any actions it proposes to implement in an effort to reduce the probability of a recurrence of the problem which resulted in the need to make an emission from any of the bypass stacks specified in Table 6.1.

6.1.16 In respect of each occasion when any emission is made from the bypass stacks specified in Table 6.1, no waste shall be fed to the incinerator until the Operator has identified the cause of the emission and taken any actions required to reduce the probability of a recurrence of the problem.

6.1.17 Each occasion when any emission is made from the bypass stacks specified in Table 6.1 shall be viewed as an incident for the purposes of Conditions 2.4.1 to 2.4.5, and the report required by that condition in respect of any such occasion shall include the matters required to be recorded by Condition 6.1.15.

## 6.2 Water Emission Conditions and Limits

- 6.2.1 The emissions to water specified in Table 6.5, shall only be permitted from the emission points and to the destinations specified in that Table, and only after having passed through the sample points specified in that Table. Steam condensate and effluent from the treatment of cooling water shall not be permitted to enter the water environment or the surface water collection and treatment systems.
- 6.2.2 Subject to Condition 6.2.3, and Condition 6.2.8, no mass concentration emission contribution specified in Table 6.5 shall exceed the limit, or be outwith the range, as appropriate, for the parameters specified in said Table.
- 6.2.3 Where the limit for any parameter in Table 6.5 is prefixed with CL, CU, A, IL or IU the following conditions shall apply in respect of that parameter:
- (a) subject to Conditions 6.2.3(b) and (c) no sample of any emission shall exceed the instantaneous lower limit (IL);
  - (b) the limit in Condition 6.2.3(a) may be exceeded where, in any series of samples of any emission taken over a year by SEPA at regular but randomised intervals (as listed in column 1 (and 3) of Table 6.8), no more than the number of samples (as listed, in the corresponding row in column 2 (and 4) of Table 6.8) exceed the IL;
  - (c) the limit in Condition 6.2.3(a) may be exceeded where, in any series of samples of any emission taken over any year in accordance with the sampling plan required under Condition 6.2.5 (as listed in column 1 (and 3) of Table 6.8), no more than the number of samples (as listed, in the corresponding row in column 2 (and 4) of Table 6.8) exceed the IL;
  - (d) notwithstanding Conditions 6.2.3(b) and (c), no sample of any emission shall exceed the instantaneous upper limit (IU); and
  - (e) no sample of any emission shall exceed the absolute limit (A) for that parameter in Table 6.5.
- 6.2.4 Measurement and/or sampling of the emissions in Table 6.5 shall be carried out by the Operator at the sampling locations specified in that Table subject to the requirements for monitoring specified in Table 6.6 or 6.7, as appropriate.
- 6.2.5 A sampling plan shall be agreed in writing with SEPA and shall be maintained and reviewed annually. The reviewed sampling plan shall be reported each year for the forthcoming calendar year.
- 6.2.6 The Operator shall record and report the mass emission results for the parameters of the combined emissions specified in Table 6.9 using the

method agreed in writing with SEPA (as summarised in Table 6.9). This information shall be reported in a format agreed in writing with SEPA.

- 6.2.7 The information used to estimate mass emissions in compliance with Condition 6.2.6 shall be recorded for each estimate.
- 6.2.8 The Operator shall ensure that all surface water drainage systems (including oil interceptor systems) are maintained in a good state of repair and are operated and maintained in accordance with the manufacturer's or designer's recommendations and that all reasonable steps are taken to ensure that any matter liable to block, obstruct or otherwise impair the ability of the surface water system to avoid pollution of the water environment is prevented from entering the system.

### **6.3 Monitoring, Measurement and Sampling Techniques**

- 6.3.1 The device, or devices, employed for the continuous monitoring of any substance listed in Table 6.1 shall have a 95% confidence interval determined at the daily average emission limit value specified in Table 6.1 that does not exceed the relevant percentage specified in Table 6.2.
- 6.3.2 In compliance with EN 14181 the device, or devices, employed for the continuous monitoring of any substance listed in Tables 6.1 and 6.5 shall:
- (a) be calibrated at least every 3 years by parallel measurements using the appropriate Comité Européen de Normalisation (CEN) standard; or
  - (b) where no CEN standard is available (and only in that circumstance): be calibrated using the relevant default calibration method given in Table 6.2 or Table 6.6.
- 6.3.3 At least once per year, in compliance with EN 14181, the Operator shall undertake an appropriate series of tests to ensure the satisfactory operation of the continuous pollutant monitoring equipment. The principal aim of the tests shall be to confirm that the relevant continuous pollutant monitoring systems for each substance specified in Table 6.2 or Table 6.6 comply with the confidence levels listed in that table for that substance. The results of the tests shall be recorded.
- 6.3.4 The Operator shall undertake regular checks and maintenance of the continuous monitoring devices in compliance with EN 14181.
- 6.3.5 The Operator shall record all maintenance and calibration work carried out on any continuous monitor required by Conditions 6.3.2, 6.3.3 and 6.2.4. If any calibration work identifies that there has been an under or over estimation of any emission limit value greater than the confidence level for that parameter listed in Table 6.2 or Table 6.6, this fact shall be notified to SEPA in writing by the next working day after the identification.
- 6.3.6 The technique employed for the periodic monitoring of any substance listed in Tables 6.3 and 6.7 shall be:
- (a) the appropriate CEN standard; or

- (b) where no CEN standard is available (and only in that circumstance): the default method for that substance given in Table 6.3 or Table 6.7, as appropriate.

#### 6.4 Data Handling and Reporting - Continuous Monitoring

- 6.4.1 The measured value of each concentration or parameter required to be continuously monitored by Conditions 6.1.3 and 6.2.4 shall be electronically recorded as required by Table 6.2 or Table 6.6, as appropriate, and the time and date of each recorded measured value shall be recorded. The collection of recorded measured values of any concentration or parameter shall be referred to as the measured value data set for that concentration or parameter.
- 6.4.2 The measured value data sets for concentrations of each continuously monitored substance other than oxygen (or moisture, if sample is not taken on dry basis), shall be electronically filtered on a real time basis as specified in Condition 6.4.3 and for air emissions, corrected on a real time basis as specified in Condition 6.4.4, in order to produce reported value data sets.
- 6.4.3 Each reported value data set shall:
- exclude measured values recorded during any zero, span and calibration checks on the instrument which gave rise to the values;
  - exclude measured values recorded during the start up and shut down periods during which no waste was being incinerated; and
  - exclude measured values recorded during the failure of monitoring equipment or other equipment that could effect the accuracy of the measurement of the concentration of those substances.
- 6.4.4 Each measured value for concentrations of those continuously monitored substances listed in Table 6.1, other than oxygen and carbon monoxide, which is included within a reported value data set shall:
- have the relevant confidence interval specified in Table 6.2 subtracted on a real time basis; and
  - be corrected on a real time basis to the reference conditions specified in Condition 6.1.4 using the contemporaneously recorded temperature, pressure, and oxygen concentration.
- 6.4.5 Subject to Conditions 6.4.6 and 6.4.7, the reported value data sets for concentrations of those continuously monitored substances listed in Table 6.1, other than oxygen and carbon monoxide, shall be divided into discrete and consecutive 30 minute subsets (commencing each hour and half hour) and similar 24 hour subsets (commencing at 00h00 each day), and the average concentration of the respective substance for each such subset shall be calculated and recorded within one minute of the subset becoming complete.
- 6.4.6 To obtain the daily average reported value data set for any substance as required in Condition 6.4.5, no more than five half-hourly average reported

value data sets in any day shall be excluded, as required by Conditions 6.4.3(a) and 6.4.3(c), due to a malfunction or maintenance of the continuous monitoring system. No more than ten daily average reported value data sets shall be excluded per year due to malfunction or maintenance of the continuous monitoring system.

- 6.4.7 The reported value data set for the concentration of carbon monoxide shall be divided into discrete and consecutive 10 minute subsets (commencing at 0, 10, 20, 30, 40 and 50 minutes past each hour) and similar discrete 30 minute subsets (commencing each hour and half hour) based on a rolling 24 hour period, and 24 hour subsets (commencing at 00h00 each day), and the average concentration of carbon monoxide for each such subset shall be calculated and recorded within one minute of the subset becoming complete.
- 6.4.8 The Operator shall submit a report containing, as a minimum, the following:
- (a) daily average reported value data sets measured and calculated in accordance with Conditions 6.4.1 to 6.4.7, as appropriate;
  - (b) for emissions to air, maximum half-hourly or maximum 10 minute average reported value data sets calculated in accordance with Conditions 6.4.5 or 6.4.7 for each day;
  - (c) for emissions to air, for each reporting period, the percentage of half hourly or 10 minute average reported value data sets calculated in accordance with Conditions 6.4.5 or 6.4.7 that exceed the emission limit value in column 5 of Table 6.1;
  - (d) for emissions to water, daily average reported value data sets measured and calculated in accordance with Conditions 6.4.1 to 6.4.3;
  - (e) graphical representations of the data required by Conditions 6.4.8(a),(b)and (d);
  - (f) any reported value data set that exceeds the relevant percentage compliance level for that substance;
  - (g) the number of hours that each incineration line has operated during each week covered by the report; and
  - (h) the total mass of each classification of waste burned in the incinerator during the period covered by the report.

## 6.5 Data Handling and Reporting - Periodic Monitoring

- 6.5.1 Any reference in this Permit to the toxic equivalent concentration of either a polychlorinated dibenzo-p-dioxin (referred to as a "dioxin"), a polychlorinated dibenzofuran (referred to as a "furan"), or dioxin-like polychlorinated biphenyls (referred to as a "PCB") in emissions to air or water shall mean the concentration of that dioxin, furan or PCB multiplied by the equivalence factor for that dioxin, furan or PCB listed in Table 6.10.
- 6.5.2 Any reference to the toxic equivalent concentration of all dioxins and furans means the sum of the toxic equivalent concentrations of all the dioxins and furans listed in Table 6.10.

- 6.5.3 Whenever the toxic equivalent concentration of all dioxins is calculated the minimum concentration for any dioxin or furan shall be the measurement technique's level of detection for that dioxin or furan.
- 6.5.4 In the report required by Condition 6.5.9, dioxins and furans shall be calculated using each of the International toxic equivalency factors (I-TEF) and World Health Organisation toxic equivalency factors (WHO-TEF) in columns 2 and 3 of Table 6.10.
- 6.5.5 In the report required by Condition 6.5.9, PCBs shall be reported as calculated using each of the World Health Organisation toxic equivalency factors (WHO-TEF) in column 3 of Table 6.10.
- 6.5.6 In the report required by Condition 6.5.9, the mass emission of poly-cyclic aromatic hydrocarbons (referred to as "PAHs") shall be calculated using the molecular masses listed in column 3 of Table 6.11, for the PAHs listed in column 1 of Table 6.11.
- 6.5.7 Whenever periodic monitoring of any substance listed in Table 6.3 or Table 6.7 is being performed the Operator shall record, or cause or require to be recorded:
- (a) the time and date the sampling period commenced and terminated;
  - (b) the identity of each person involved in performing the monitoring exercise, and their respective roles;
  - (c) the mass of that substance collected during the said sampling period;
  - (d) for air emission monitoring, the volume of gas extracted during the sampling period;
  - (e) for water emission monitoring, the volumetric flowrate of the effluents being sampled and the measuring techniques;
  - (f) the types of waste fed to each of the primary gasification chambers during the sampling period;
  - (g) any abnormal or unusual operating conditions that occurred during the sampling period;
  - (h) any deviations from the methods specified in Table 6.3 or Table 6.7, as appropriate; and
  - (i) details of any relevant continuous monitoring reported values for the period contemporaneous with the sampling period.
- 6.5.8 The emission concentration values, standardised where appropriate to the reference condition specified in Condition 6.1.4, for those substances listed in Table 6.3 or Table 6.7 shall be calculated from the information detailed in Condition 6.5.7(c), 6.5.7(d) and 6.5.7(e).
- 6.5.9 The Operator shall report the results of all periodic monitoring. The report shall contain, as a minimum, the information specified in Condition 6.5.7, and

the emission concentration values calculated as a consequence of Condition 6.5.8.

## **6.6 Residue Management**

6.6.1 The residues and raw materials described in Table 6.12 and 6.14, shall only be stored on the Site in the location, method and quantities specified in those Tables.

6.6.2 By 1 July 2009, the Operator shall prepare, implement and maintain a plan ("the Residue Management Plan") such that generation of each residue generated by the incinerator shall be minimised, and that residues are stored, handled, characterised, processed, and disposed of in the most appropriate manner. The said plan shall be recorded and reviewed no less frequently than once every 2 years, and each such review shall be recorded.

6.6.3 The Residue Management Plan required by Condition 6.6.2 shall ensure that:

- (a) each residue is characterised such that accurate information on the nature, quantity, physical and chemical characteristics (including total soluble fraction and heavy metals soluble fraction for each ash residue) hazard category (if appropriate), polluting potential and type of the residue may be provided to those persons or companies carrying, keeping, treating or disposing of the residue;
- (b) each residue is kept separate from other residues;
- (c) each residue which is a dust, or has the potential to become a dust, shall be stored and handled in enclosed containers at all times;
- (d) residues which require treatment prior to disposal are so treated; and
- (e) all information pertaining to the implementation of the residue management is recorded.

6.6.4 As a minimum, the characterisation required by Condition 6.6.3(a) shall comprise:

- (a) the assessment of the concentration of the substances listed in Table 6.13, in a sample of those ash residues specified at the relevant frequency for that ash residue using the relevant test method prescribed in that Table for that substance; and

- (b) an assessment of the extent and nature of substances which may leach from a sample of each ash residue taken no less frequently than once per year.

6.6.5 Compliance with Condition 5.1.1(a) shall be assessed by performing tests to ascertain the Total Organic Carbon (TOC) content or loss on ignition of composite samples of the ashes from each primary gasification chamber as specified in Table 6.13. The results of the tests shall be recorded and reported.

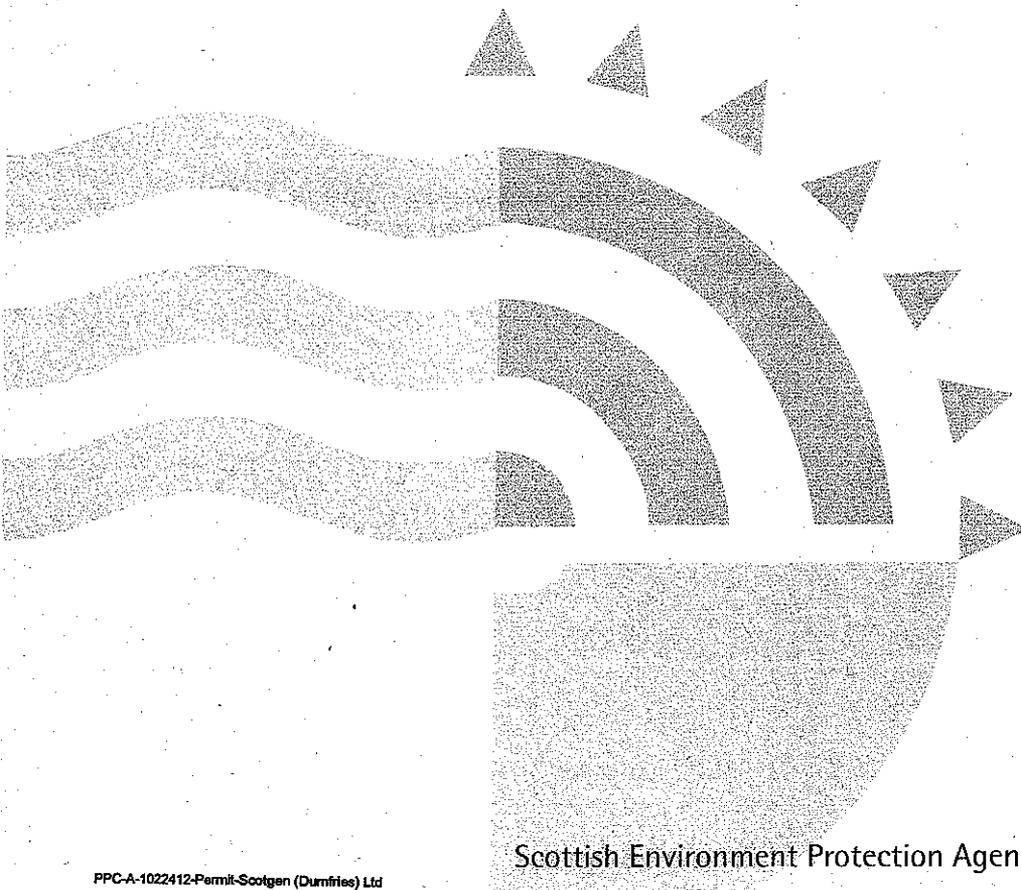
6.6.6 Compliance with Condition 5.1.1(b) shall be assessed by performing tests to ascertain the chemical composition of composite samples of the ash and flue gas treatment chemical residues from the bag filter abatement system as specified in Table 6.13. The results of the tests shall be recorded and reported.

6.6.7 The Operator shall maintain a record of the dates, tonnages and destination of each consignment of residue removed from the Permitted Installation.

## 6.7 Review and Upgrade Requirements

6.7.1 By 24 September 2010, the Operator shall undertake and document a review and assessment of the extent of emissions of nitrous oxide from the installation and submit a report of the review and assessment to SEPA. The aim of the review shall be to:

- (a) establish the extent and variability of emissions to air of nitrous oxide;
- (b) compare the extent of emissions of nitrous oxide from the installation with emissions from other incineration technologies;
- (c) identify and quantify (where possible) the process variables (including waste types, excess air levels and urea injection stoichiometric ratios) that impact on the extent and variation of emissions to air of nitrous oxide; and
- (d) identify the costs, efficiency, abatement potential of relevant means of preventing or minimising emissions to air of nitrous oxide.



**ANNEX 1 TO SCHEDULE 6 –  
Emissions to Air ELVs**

Source of emission	A1 and A2				A3 and A4
	Flues in the main stack receiving flue gas from Incineration line 1 and 2				
Emission point/Identifier					Bypass stacks from incineration lines 1 & 2 respectively
Emission source					14.8 / 1.29
Stack height/ flue diameter (m)	22.5 / 0.9				57720- 30137 and 57722 - 30134
Location Coordinates (N, E)	57722 - 30133				Periodic
Type of monitoring	Continuous	Continuous	Continuous	Periodic	
Sampling location	Between the ID fan and main stack	Between the ID fan and main stack	Between the ID fan and main stack	Between the ID fan and main stack	In stack
Basis of limit value	Daily average (mg/Nm <sup>3</sup> )	100% of all half hourly averages (mg/Nm <sup>3</sup> )	95% of all 10 minute averages (mg/Nm <sup>3</sup> )	Average over sample period	
Carbon monoxide	50	100	150	100 mg/Nm <sup>3</sup>	100 mg/Nm <sup>3</sup>
Basis of limit value	Daily average (mg/Nm <sup>3</sup> )	100% of all half hourly averages (mg/Nm <sup>3</sup> )	97% of all half hourly averages (mg/Nm <sup>3</sup> )	Average value over sample period	
Total dust	10	30	10	30 mg/Nm <sup>3</sup>	150 mg/Nm <sup>3</sup>
Gaseous & vaporous organic substances expressed as total organic carbon	10	20	10	20 mg/Nm <sup>3</sup>	20 mg/Nm <sup>3</sup>
Hydrogen chloride	10	60	10	60 mg/Nm <sup>3</sup>	No limit
Hydrogen nitride	No Limit	No Limit	No Limit	4 mg/Nm <sup>3</sup>	No limit
Sulphur dioxide	50	200	50	200 mg/Nm <sup>3</sup>	No limit
Nitrogen monoxide and nitrogen dioxide (expressed as NO <sub>2</sub> )	200	400	200	400 mg/Nm <sup>3</sup>	No limit
Cd and Tl and their compounds taken together, expressed as Cd and Tl	No limit	No limit	No limit	0.05 mg/Nm <sup>3</sup>	No limit
Hg and its compounds as Hg	No limit	No limit	No limit	0.05 mg/Nm <sup>3</sup>	No limit
Sb, As, Pb, Cr, Co, Cu, Mn, Ni & V and their compounds taken together	No limit	No limit	No limit	0.5 mg/Nm <sup>3</sup>	No limit
Dioxins and furans (FTEF)	No limit	No limit	No limit	0.1 ng/m <sup>3</sup>	No limit
Smoke Ringelmann Shade BS 2742, 1969 (as amended)	No limit	No limit	No limit	Shade 1	Shade 1
Visible plume	No limit	No limit	No limit	No persistent mist, droplets or fume	No persistent mist, droplets or fume
Ammonia	10	20	No limit	20	No limit

Table 6.2: Emissions to Air Continuous Monitoring Requirements

Parameter	Emission point number	Continuous (C)				
		Monitoring Standard	Sample frequency	Maximum 95% confidence interval at daily average limit value	Averaging period and time span for percentage limits	Default calibration method
Oxides of nitrogen as nitrogen dioxide	A1 and A2	ISO 10849:1996	At least one sample every 30 seconds	20%	Half hourly based on a calendar year	BS EN 14792
Total dust	A1 and A2	ISO 10155:1995 or BS EN 13284-2	At least one sample every 30 seconds	30%	Half hourly based on a calendar year	BS EN 13284 pt 1:2002 or BS ISO 9096 (above Standards to be used in conjunction with BS EN 14181)
Total organic carbon	A1 and A2	BS EN 12619 or 13526 or BS EN 13284-2	At least one sample every 30 seconds	30%	Half hourly based on a calendar year	BS EN 12619 or 13526
Hydrogen chloride	A1 and A2	BS EN 1911	At least one sample every 30 seconds	40%	Half hourly based on a calendar year	BS EN 1911
Sulphur dioxide	A1 and A2	ISO 7935	At least one sample every 30 seconds	20%	Half hourly based on a calendar year	BS EN 14791 or BS EN 6069-4.
Carbon monoxide	A1 and A2	ISO 12039	At least one sample every 30 seconds	10%	10 minute and half hourly based on a rolling 24 hour period	BS EN 15058
Nitrous oxide	A1 and A2	ASTM D6348-03 or BS EN 14792	At least one sample every 30 seconds	-	Half hourly based on a calendar year	To be agreed in writing with SEPA
Ammonia	A1 and A2	USA EPA Method 26	At least one sample every 30 seconds	-	Half hourly based on a calendar year	USA EPA Method 26
Oxygen	A1 and A2	ISO 12039	At least one sample every 30 seconds	-	-	BS EN 14789
Temperature in secondary chamber	A1 and A2	BS ISO 14146:1999	At least one sample every 30 seconds	-	-	Suction pyrometer to carry out temperature traverse across the chamber
Temperature of exhaust gas	A1 and A2	BS ISO 14146:1999	At least one sample every 30 seconds	-	-	BS ISO 14146:1999
Pressure of exhaust gas	A1 and A2	BS ISO 14146:1999	At least one sample every 30 seconds	-	-	BS ISO 14146:1999
Water vapour content of exhaust gas	A1 and A2	To be agreed in writing with SEPA	At least one sample every 30 seconds	-	-	prEN 14970

**Table 6.3: Emissions to Air Monitoring Spot Sampling Requirements**

Parameter	Emission point	Standard	Spot Sampling (SS)	
			Frequency	Operational mode
Oxides of nitrogen as nitrogen dioxide	A1 & A2	BS EN 14792	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Carbon monoxide	A1 & A2	BS EN 15058	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Total dust	A1 & A2	BS EN 13284 pt 1:2002 or BS ISO 9096	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Ammonia	A1 & A2	To be agreed in writing with SEPA	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Total organic carbon	A1 & A2	BS EN 12619 or BS EN 13526	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Hydrogen chloride	A1 & A2	BS EN 1911 pts 1 to 3:1998	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Hydrogen fluoride	A1 & A2	BS ISO 15713	Once every month for a period of atleast one hour	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Sulphur dioxide	A1 & A2	BS EN 1911	Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Nitrous Oxide	A1 & A2	BS EN 14791 or BS EN 6069-4.4	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Temperature of gases (secondary combustion chamber exit)	A1 & A2	To be agreed in writing with SEPA	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Oxygen	A1 & A2	Thermocouple	Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Pressure of exhaust gas	A1 & A2	BS EN 14789	Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Temperature of exhaust gas	A1 & A2	BS EN 13284 or BS /ISO 9096	Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Water vapour content of exhaust gas	A1 & A2	Calibrated thermocouple	Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Metals Cd, Ti, Hg and Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V & their compounds taken together	A1 & A2	BS EN 14790	Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Dioxins and furans	A1 & A2	BS EN 13211 for Hg BS EN 14385 for other metals	Monthly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
Dioxin-like polychlorinated biphenyls and poly-cyclic aromatic hydrocarbons	A1 & A2	BS EN 1948:1997	Monthly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber
	A1 & A2	BS ISO 11338 pts 1 and 2 for PAH	Quarterly for first year of operation then Twice per year	At a rate representative of normal operation and not less than 70% of maximum rating of the secondary chamber

**Table 6.4: Mass Emissions to Air**

Parameter	Combined emissions points	Method summary	Mass emissions result to be recorded as
Carbon Monoxide	A1 to A2	The mass of carbon monoxide released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg carbon monoxide per tonne waste incinerated and kg carbon monoxide per year
Oxides of nitrogen (as NO <sub>2</sub> )	A1 to A2	The mass of oxides of nitrogen released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg oxides of nitrogen per tonne waste incinerated and kg oxides of nitrogen per year
Oxides of sulphur (as SO <sub>2</sub> )	A1 to A2	The mass of oxides of sulphur released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg oxides of sulphur per tonne waste incinerated and kg oxides of sulphur per year
Particulate matter	A1 to A2	The mass of particulate matter released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg particulate matter per tonne waste incinerated and kg particulate matter per year
Hydrogen chloride	A1 to A2	The mass of hydrogen chloride released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg hydrogen chloride per tonne waste incinerated and kg hydrogen chloride per year

Continued.....

Parameter	Combined emissions points	Method summary	Mass emissions result to be recorded as
Hydrogen fluoride	A1 to A2	The mass of hydrogen fluoride released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg hydrogen fluoride per tonne waste incinerated and kg hydrogen fluoride per year
Total organic carbon	A1 to A2	The mass of total organic carbon released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg total organic carbon per tonne waste incinerated and kg total organic carbon per year
Total metal compounds	A1 to A2	The mass of total metal compounds released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg total metal compounds per tonne waste incinerated and kg total metal compounds per year
Dioxins and furans	A1 to A2	The mass of dioxins and furans released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg dioxins and furans as I-TEF per tonne waste incinerated and kg dioxins and furans as I-TEF per year
Dioxin-like polychlorinated biphenyls	A1 to A2	The mass of dioxin-like polychlorinated biphenyls released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg dioxin-like polychlorinated biphenyls as WHO-TEF per tonne waste incinerated and kg dioxin-like polychlorinated biphenyls as WHO-TEF per year
Poly-cyclic aromatic hydrocarbons	A1 to A2	The mass of polycyclic aromatic hydrocarbons released shall be calculated by multiplication of the measured concentration value and the contemporaneously derived volumetric flow rate of the waste combustion gases such that an instantaneous mass release rate is derived and that release rate shall be integrated in such a manner so as to quantify the mass released over a suitable time period. The emission concentrations and flowrates must be at stack conditions. Wet gas at stack temperature and pressure with no correction for the oxygen content of the flue gases.	kg poly-cyclic aromatic hydrocarbons per tonne waste incinerated and kg poly-cyclic aromatic hydrocarbons per year

## ANNEX 2 TO SCHEDULE 6 – Emissions to Water

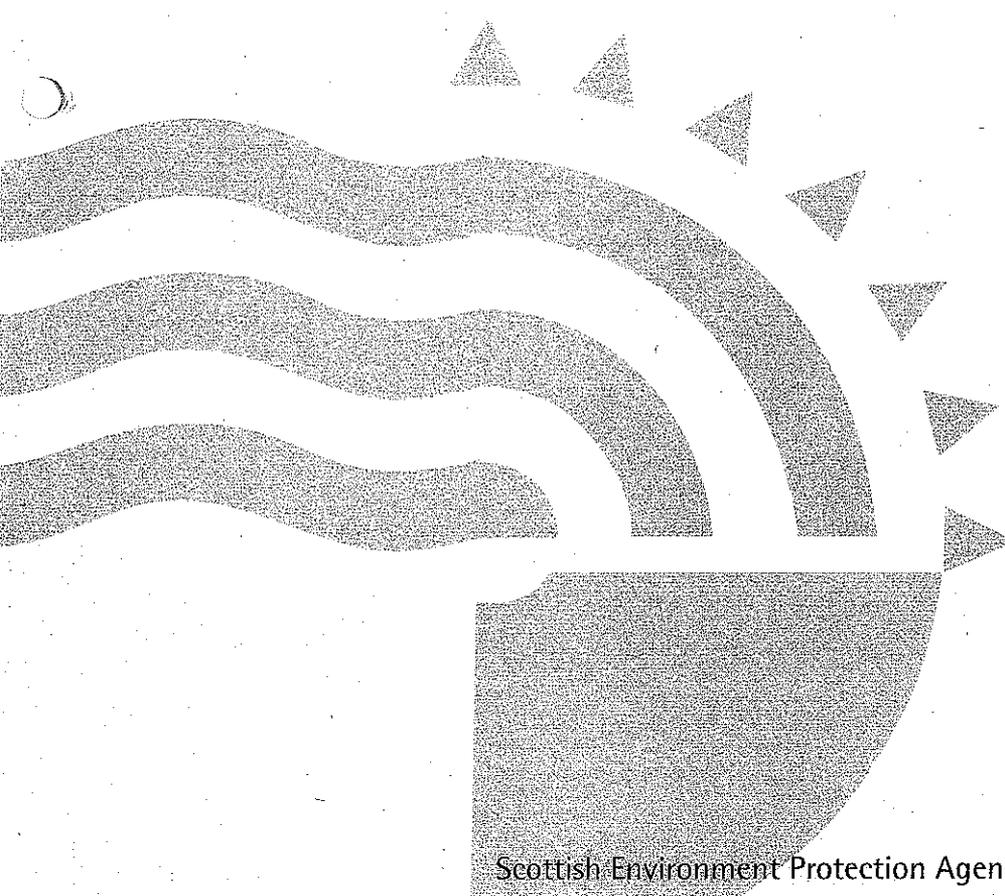
Table 6.5: Emissions to Water/Sewer ELVs

Source of Emission	Emission point number	SW1	SW2
	Emission source	Surface waters (Basin A)	Surface waters from Contained Area 1
	Destination	Dargavel Burn	Dargavel Burn
	Location Coordinates	57721 - 30142	57720 - 30142
Monitoring Details	Sampling location	Sampling chamber on basin outlet	Sampling chamber on interceptor outlet at 57718 - 30138
Emission limit values	Suspended solids (mg/litre) (measured after drying at 105°C)	100 (A)	100 (A)
	pH	Between 5 and 9 (A)	Between 5 and 9 (A)
	Temperature (°C)	25 (A)	25(A)
	Biological Oxygen Demand (BOD) (mg/litre) determined in the presence of excess allyl thiourea after 5 days at 20°C	50 (A)	50 (A)
	Visible discoloration, iridescence foaming or significant growth of sewage fungus	Non permitted	Non permitted

**Table 6.6: Emissions to Water Continuous Monitoring Requirements**

Parameter	Emission point number	Continuous (C)				
		Monitoring Device Type	Sample time	Confidence limits	Averaging period and time span for percentage limits	Default calibration method
pH	At the outlet of the interceptor system at 57718 - 30138	To be agreed in writing with SEPA	Continuous	N/A	Instantaneous	SCA Measurement of electric conductivity and determination of pH ISBN 0117514284
Temperature	At the outlet of the interceptor system at 57718 - 30138	To be agreed in writing with SEPA	Continuous	N/A	Instantaneous	To be agreed in writing with SEPA
Hydrocarbons	At the outlet of the interceptor system at 57718 - 30138	To be agreed in writing with SEPA	Continuous	N/A	Instantaneous	To be agreed in writing with SEPA
Conductivity	At the outlet of the interceptor system at 57718 - 30138	To be agreed in writing with SEPA	Continuous	N/A	Instantaneous	To be agreed in writing with SEPA
Flow	At the outlet of the interceptor system at 57718 - 30138	To be agreed in writing with SEPA	Continuous	N/A	Instantaneous	SCA Estimation of flow and load ISBN 011752364X

Note: All analysis shall be undertaken on unfiltered samples.



**Table 6.7: Emissions to Water Spot Sampling Requirements**

Parameter	Emission point number	Spot Sampling (SS)		
		Method	Frequency	Standard
Suspended solids	SW1 & SW2	Spot Sample	Weekly	ISO 11929:1997, EN 872
Conductivity	SW1 & SW2	Spot Sample	Weekly	To be agreed in writing with SEPA
pH	SW1 & SW2	Spot Sample	Weekly	SCA Measurement of electric conductivity and determination of pH ISBN 0117514284
BOD	SW1 & SW2	Spot Sample	Monthly	To be agreed in writing with SEPA
Temperature	SW1 & SW2	Spot Sample	Weekly	To be agreed in writing with SEPA
Hydrocarbons	SW1 & SW2	Spot Sample	Weekly	To be agreed in writing with SEPA

Note: All analysis shall be undertaken on unfiltered samples.

**Table 6.8: Two Tier Consent Table**

Series of samples taken in any period of 12 consecutive months	Maximum permitted number of samples which fail to conform	Series of samples taken in any period of 12 consecutive months	Maximum permitted number of samples which fail to conform
1 - 7	1	172 - 187	14
8 - 16	2	188 - 203	15
17 - 28	3	204 - 219	16
29 - 40	4	220 - 235	17
41 - 53	5	236 - 251	18
54 - 67	6	252 - 268	19
68 - 81	7	269 - 284	20
82 - 95	8	285 - 300	21
96 - 110	9	301 - 317	22
111- 125	10	318 -334	23
126 - 140	11	335 - 350	24
141 - 155	12	351 - 365	25
156 - 171	13		



**Table 6.9: Mass Emissions to Water**

Parameter	Emission Point	Method	Mass emission frequency and basis of recording
No reporting Required			



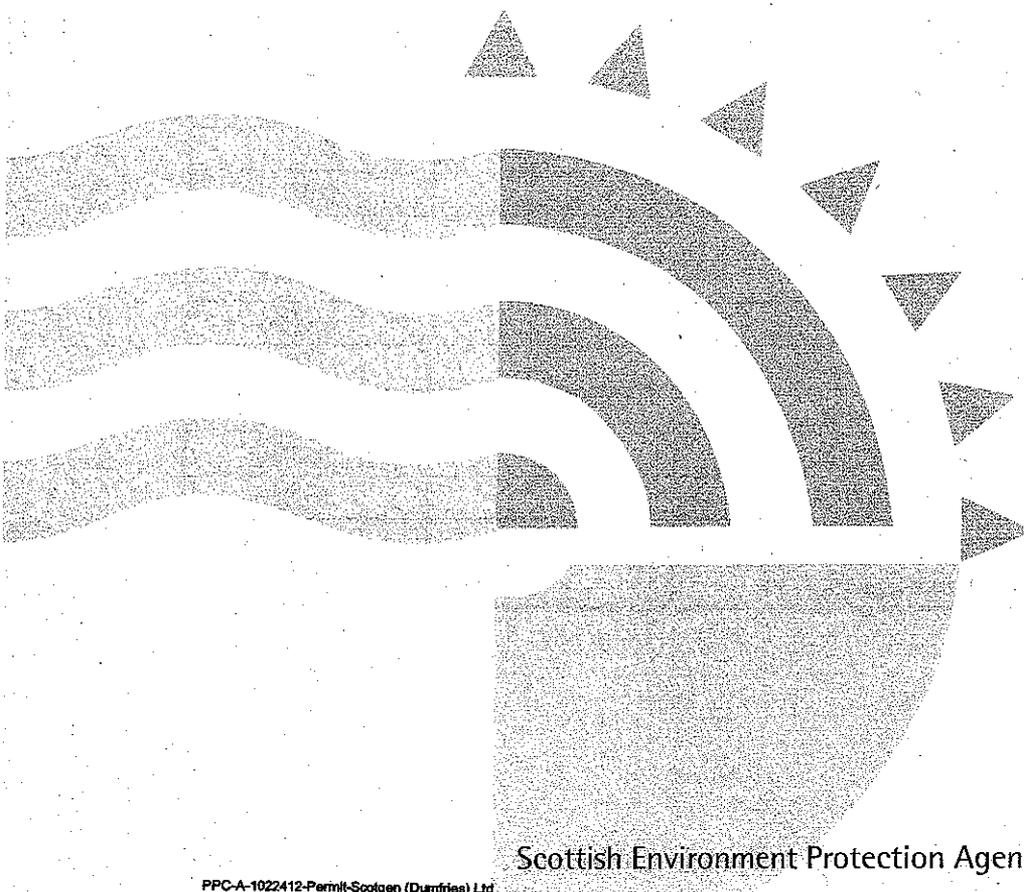
## ANNEX 3 TO SCHEDULE 6 – Toxic Equivalence Factors

Table 6.10: Toxic Equivalence Factors for Dioxins, Furans and Dioxin-like PCBs

Substance	I-TEF Equivalence Factor	WHO-TEF Equivalence Factor
<b>Dioxins</b>		
2,3,7,8 Tetrachlordibenzodioxin (TCDD)	1	1
1,2,3,7,8 Pentachlordibenzodioxin (PeCDD)	0.5	1
1,2,3,4,7,8 Hexachlordibenzodioxin (HxCDD)	0.1	0.1
1,2,3,6,7,8 Hexachlordibenzodioxin (HxCDD)	0.1	0.1
1,2,3,7,8,9 Hexachlordibenzodioxin (HxCDD)	0.1	0.1
1,2,3,4,6,7,8 Heptachlordibenzodioxin (HpCDD)	0.01	0.01
Octachlordibenzodioxin (OCDD)	0.001	0.0001
<b>Furans</b>		
2,3,7,8 Tetrachlordibenzofuran (TCDF)	0.1	0.1
2,3,4,7,8 Pentachlordibenzofuran (PeCDF)	0.5	0.5
1,2,3,7,8 Pentachlordibenzofuran (PeCDF)	0.05	0.05
1,2,3,4,7,8 Hexachlordibenzofuran (HxCDF)	0.1	0.1
1,2,3,6,7,8 Hexachlordibenzofuran (HxCDF)	0.1	0.1
1,2,3,7,8,9 Hexachlordibenzofuran (HxCDF)	0.1	0.1
2,3,4,6,7,8 Hexachlordibenzofuran (HxCDF)	0.1	0.1
1,2,3,4,6,7,8 Heptachlordibenzofuran (HpCDF)	0.01	0.01
1,2,3,4,7,8,9 Heptachlordibenzofuran (HpCDF)	0.01	0.01
Octachlordibenzofuran (OCDF)	0.001	0.0001
<b>Non-ortho PCBs</b>		
3,4,4',5 Tetrachlorbiphenol (TCB) (81)	-	0.0001
3,3',4,4' Tetrachlorbiphenol (TCB) (77)	-	0.0001
3,3',4,4',5 Pentachlorbiphenol (PeCB) (126)	-	0.1
3,3',4,4',5,5' Hexachlorbiphenol (HxCB) (169)	-	0.01
<b>Mono-ortho PCBs</b>		
2,3,3',4,4' Pentachlorbiphenol (PeCB) (105)	-	0.0001
2,3,4,4',5 Pentachlorbiphenol (PeCB) (114)	-	0.0005
2,3',4,4',5 Pentachlorbiphenol (PeCB) (118)	-	0.0001
2',3,4,4',5 Pentachlorbiphenol (PeCB) (123)	-	0.0001
2,3,3',4,4',5 Hexachlorbiphenol (HxCB) (156)	-	0.0005
2,3,3',4,4',5 Hexachlorbiphenol (HxCB) (157)	-	0.0005
2,3',4,4',5,5' Hexachlorbiphenol (HxCB) (167)	-	0.00001
2,3,3',4,4',5,5' Heptachlorbiphenol (HpCB) (189)	-	0.0001

Table 6.11: Molecular Masses for PAHs

Substance	CAS no.	Molecular Mass (g)
<b>PAHs</b>		
Benzo(a)pyrene	50-32-8	252.32
Benzo(ghi)perylene	191-24-2	276.34
(Benzo(k)fluoranthene	207-08-9	252.32
Fluoranthene	206-44-0	202.26
Indeno(1,2,3-cd)pyrene	193-39-5	276.34
Benzo(b)fluoranthene	205-99-2	252.32



**ANNEX 4 TO SCHEDULE 6 – Residues****Table 6.12: Residues Handling and Storage**

Description of residue	Location of storage	Method of storage	Maximum permitted quantity	Storage conditions
Bottom ash from gasifier systems	Outside storage area at 57721 -30139	Covered skips	65 tonnes in total	Covered bunded storage area
	Enclosed processing building			Inside the processing building
Flyash and Flue gas treatment residues	Enclosed processing building	Sealed bags	38.5 tonnes	Such residues are only permitted to be stored within the enclosed processing building in such a manner such as the potential for odorous emissions are minimised.
Waste waters and liquid effluents	57723 - 30131	Bunded storage tank	25,000 litres	Complete secondary containment of tank with temperature monitoring of all incoming effluents and with impact protection

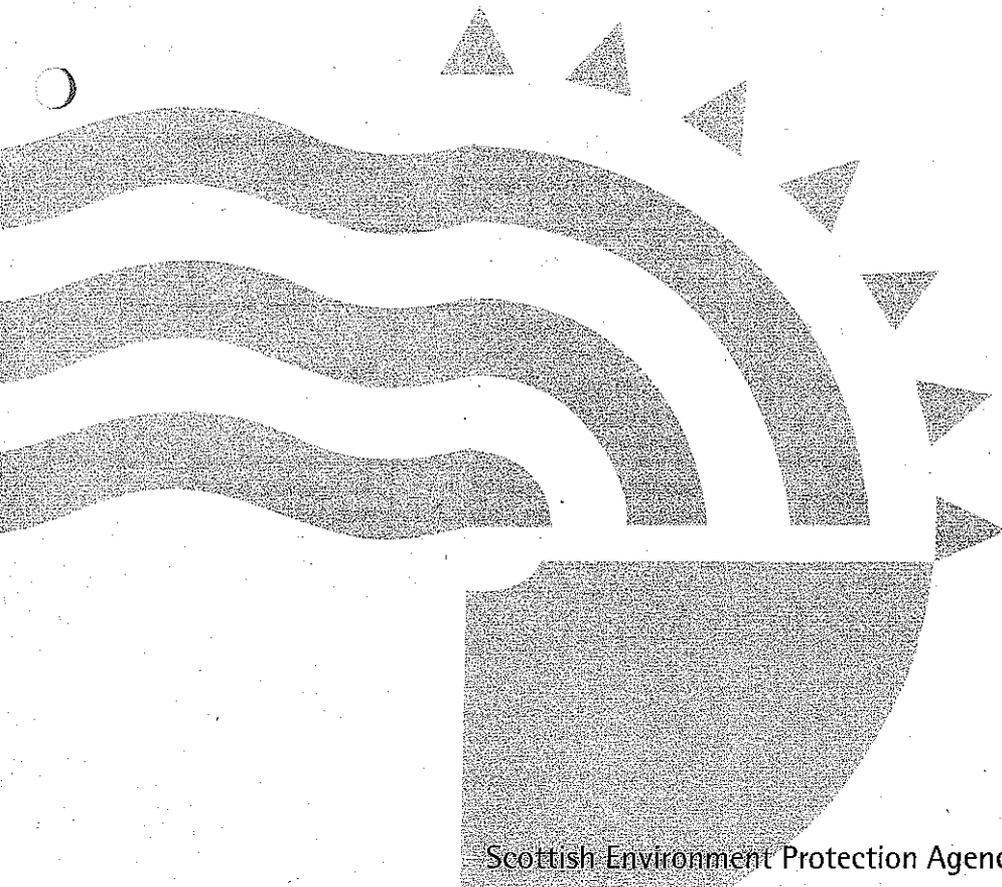


Table 6.13: Residue Assessment

Substance	Residue stream	Monitoring and reporting frequency	Analytical method
Mercury	All ash residues	Once in the first three months of operation and once per year thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
Cadmium	All ash residues	Once in the first three months of operation and once per year thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
All other soluble heavy metals	All ash residues	Once in the first three months of operation and once per year thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
Dioxins, dibenzofurans, dioxin-like polychlorinated biphenyls and poly-cyclic aromatic hydrocarbons	All ash residues	Once in the first three months of operation and once per year thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
Loss on ignition or Total Organic Carbon (TOC)	Residues from the primary gasification chambers	Once per week in the first three months of operation and once every month thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
Loss on ignition or Total Organic Carbon (TOC)	Residues from the gas treatment filter system	Once per month in the first three months of operation and once every three months thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
Sodium bicarbonate and sodium carbonate	Residues from the gas treatment filter system	Once per week in the first three months of operation, monthly thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
Moisture	All ash residues	Monthly and reported in accordance with Table 2.1	As agreed in writing with SEPA
Zinc	All ash residues	Once in the first three months of operation and once per year thereafter and reported in accordance with Table 2.1	As agreed in writing with SEPA
Ash	All ash residues	Monthly and reported in accordance with Table 2.1	As agreed in writing with SEPA

## 6.14 Other raw material storage

Description of material	Location coordinates of storage	Method of storage	Maximum quantity	Storage conditions
Sodium bicarbonate	57722 - 30132	One 72 m <sup>3</sup> silo	95 tonnes	In dry form
Hazardous waste	57725 - 30128	Covered banded area	140 tonnes	In sealed containers in the storage enclosure in Contained Area 1
	Main Building	Within a designated area	80 tonnes	In sealed containers
Non-hazardous Waste	In the main processing building	Covered building	880 Tonnes	In suitable contained areas
Powdered activated carbon (PAC)	Inside the enclosed processing building	Sealed bags	4.5 tonnes	In dry form in sealed bags
Hydraulic oil	Turbine 57723 - 30133	2 off Banded tanks	1260 litres each	Tanks meeting or storage containers meeting the requirements of The Water Environment (Oil Storage) (Scotland) Regulations 2006
	Stream 1 57721 - 30138	Banded tank	225 litres	
	Stream 2 57723 - 30135	Banded Tank	225 litres	
Gasoil	57723 - 30130	Banded tank	25,000 litres	Tank meeting the requirements of The Water Environment (Oil Storage) (Scotland) Regulations 2006
Urea	57720 - 30137	Sealed bags	9 tonnes	In dry pellet form in sealed bags
Urea solution	57721 - 30138	Banded tank	3000 litres	Banded tank fitted with high level arms and odour control systems providing secondary containment of 110% of the capacity of the 1Y containment vessel
Polcarboxylate and phosphonate solution Corrosion inhibitor	57722 - 30131	Banded tank	500 litres	Banded tank providing secondary containment of 110% of the capacity of the primary containment vessel
Sodium Bromide solution biocide	57722 - 30131	Banded tank	500 litres	Banded tank providing secondary containment of 110% of the capacity of the primary containment vessel
Sodium hypochlorite solution biocide	57722 - 30131	Banded tank	1000 litres	Banded tank providing secondary containment of 110% of the capacity of the primary containment vessel

Methyl isothiazolinone and chloro derivative biocide	57722 - 30131	Bunded tank	100 litres	Bunded tank providing secondary containment of 110% of the capacity of the primary containment vessel
Hydroxyethylidene diphosphonic acid (Scale retardant for cooling water blowdown RO treatment system)	57722 - 30131	Bunded tank	100 litres	Bunded tank providing secondary containment of 110% of the capacity of the primary containment vessel
Amino methylpropanol Boiler water treatment	57724 - 30134	Bunded tank	500 litres	Bunded tank providing secondary containment of 110% of the capacity of the primary containment vessel
Potassium hydroxide 20% Boiler water treatment	57724 - 30134	Bunded tank	500 litres	Bunded tank providing secondary containment of 110% of the capacity of the primary containment vessel
Sodium Chloride	57725 - 30133	Sealed bags	1.0 tonnes	In dry form in sealed bags
Carbohyrazide Boiler water treatment	57724 - 30134	Bunded tank	500 litres	Bunded tank providing secondary containment of 110% of the capacity of the primary containment vessel

## **EXPLANATORY NOTES**

(These Explanatory Notes do not form part of the Permit)

### **1. BAT**

It should be noted that Regulation 9(11) & (12) of the Regulations specify that there is an implied condition in every permit that, in operating the installation or mobile plant, the Operator shall use the best available techniques (BAT) for preventing or, where that is not practicable, reducing Emissions from the installation or mobile plant.

This implied condition does not apply in relation to any aspect of the operation of the installation or mobile plant, which is regulated by a specific condition of the permit. Examples of aspects of the operation that have not been regulated by specific conditions are management and supervision systems, training and qualifications, and maintenance in general.

BAT is defined in Regulation 3 of the Regulations as follows:

"Best available techniques" means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole;

"available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the UK, as long as they are reasonably accessible to the operator;

"best" means in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;

"techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Schedule 2 of the Regulations specifies the matters to be taken into account in determining BAT.

In considering BAT, SEPA would expect the Operator to have regard to all relevant PPC sectoral or other technical guidance, including BAT Reference Documents published by the European Commission and UK technical guidance published by the Environment Agency.

### **2. GENERAL STATUTORY REQUIREMENTS**

The permit does not detract from any other statutory requirements applicable to you in respect of the Permitted Installation, such as any need to obtain planning permission or building regulations approval or any responsibilities under legislation for health, safety and welfare in the workplace.

### 3. APPEALS

If you are aggrieved by any of the conditions of the permit, you should initially contact the local SEPA Office at the address or telephone number below. Further information on your right of appeal and the appeals procedure is contained Regulation 22 and Schedule 8 of the Regulations.

### 4. SUBSISTENCE CHARGES

An annual subsistence charge will be payable in respect of the permit in terms of the Pollution Prevention and Control (Scotland) Charging Scheme 2002 or any relevant charging scheme made under Section 41 of the Environment Act 1995, copies of which are available from SEPA.

### 5. ADDRESS AND TELEPHONE NUMBERS

The contact address and telephone number for all information to be reported in terms of the permit is as follows: -

Scottish Environment Protection Agency  
Redwood Crescent  
Peel Park  
East Kilbride  
G74 5PP

Tel No: 0800 80 70 60 and/or 01355 574200 or 01387 720502  
Fax No: 01355 574688 or 01387 722154

### 6. REVIEW OF CONDITIONS

The conditions of the permit will be periodically reviewed by SEPA.

### 7. PROPOSED CHANGE IN OPERATION OF INSTALLATION

It is a requirement of Regulation 12 of the Regulations that, if you propose to make a change in the operation of the installation, you must notify SEPA at least 14 days before making the change. The requirement under Regulation 12 does not apply if you have already made an application to SEPA for the variation of the conditions of the permit containing a description of the proposed change.

N.B. the requirements of Regulation 12 are in addition to any obligations you may have under the permit itself to only operate the Permitted Installation in the manner set out in the permit and to notify SEPA of proposed changes to the Permitted Installation.

Regulation 13 and Schedule 7 of the Regulations provide details on applications for variation of the permit in respect of proposed changes and substantial changes in operation.

"Change in operation" and "substantial change in operation" are defined in Regulation 2 of the Regulations.

## **8. ENFORCEMENT & OFFENCES**

If SEPA is of the opinion that you have contravened, or are contravening or are likely to contravene a condition of the permit it may serve an Enforcement Notice. Further details on Enforcement Notices are provided in Regulation 19 of the Regulations.

If SEPA is of the opinion that the operation of an installation or mobile plant involves a risk of serious pollution it must, in certain circumstances, serve a Suspension Notice on you. Further details on Suspension Notices are provided in Regulation 20 of the Regulations.

It is an offence to operate an installation or mobile plant covered by the Regulations without a permit or in breach of the conditions of the permit. It is an offence to fail to comply with the requirements of an Enforcement or Suspension Notice. It is an offence to intentionally make a false entry in any record required to be kept under a condition of a permit. Further details on offences and on penalties liable to be imposed upon conviction of an offence are provided in Regulation 30 of the Regulations.

Directors, managers and other individuals within a company may be held personally liable for offences under the Regulations.

All personnel who are responsible for fulfilling any condition of the permit should be made aware of these facts.

## **9. RECORDED SYSTEMS, PROCEDURES OR INFORMATION RECORDING/ RETURN REQUIREMENTS**

Where a condition requires any system, procedure or information record/return, the Operator may demonstrate compliance by making use of any relevant existing written system used for any other purpose and which meets the requirements of the relevant condition.

## **10. SYSTEMATIC ASSESSMENT (AND REVIEW)**

Where a condition of the permit requires a "systematic assessment (and review)", the assessment should be undertaken in a methodical and arranged manner. If you require guidance on the scope or extent of any assessment (and review) required to be undertaken, you should contact your local SEPA office at the address or telephone number given above.

## **11. COMMERCIAL CONFIDENTIALITY**

Regulation 27 of the Regulations requires that SEPA maintain a register ("a Public Register"), whilst Schedule 9 of the Regulations sets out what the Public Register shall contain. Regulation 29(2) provides you with an opportunity to apply for exclusion from the Public Register for certain confidential information. Where you are required to supply SEPA with information whether via a condition in this permit, or otherwise, and that information falls under Schedule 9, if you wish it to be excluded from the public register as confidential information, then such a submission must include an application made under Regulation 29(2).

100

