SCOTTISH ENVIRONMENT PROTECTION AGENCY

POLLUTION PREVENTION AND CONTROL ACT 1999

POLLUTION PREVENTION AND CONTROL (SCOTLAND) REGULATIONS 2012 ("THE REGULATIONS")

NOTICE OF VARIATION TO PERMIT

Permit No: **PPC/A/1003157 (As Varied)**

To: **MVV Environment Baldovie Ltd**

Address: **Forties Road**
Dundee
DD4 0NS

The Scottish Environment Protection Agency ("SEPA"), in exercise of its powers under Regulation 46 of the Regulations, hereby gives you notice that it has decided, to vary permit PPC/A/1003157 (As Varied) granted under the Regulations The variations are specified in the Schedule to this notice and take effect on 28 February 2019.

.....

Authorised to sign on behalf of the
Scottish Environment Protection Agency

Date: 28 February 2019

Right of Appeal

Under Regulation 58 of the Regulations you are entitled to appeal to the Scottish Ministers against the conditions attached to this Notice, except where SEPA has served this Notice to implement a direction to SEPA of the Scottish Ministers. The bringing of an appeal will not have the effect of suspending the operation of the conditions attached to this Notice. The procedures and timescales for the making of an appeal are set out in Schedule 8 of the Regulations.

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SCOTTISH ENVIRONMENT PROTECTION AGENCY

POLLUTION PREVENTION AND CONTROL ACT 1999

POLLUTION PREVENTION AND CONTROL (SCOTLAND) REGULATIONS 2012 ("THE REGULATIONS")

SCHEDULE TO NOTICE OF VARIATION UNDER REGULATION 46(8)

Operator: **MVV Environment Baldovie Limited (MEB)**
Permit Number: **PPC/A/1003157-CP01 (As Varied)**
Date of Permit: **24/11/2005**
Variation No: **VN05**

Permit number PPC/A/1003157/CP01 (As Varied) has been varied as follows:

1. The Contents Table, Interpretation of Terms, Schedules 1, 2, 3, 4, 5, and 6, and all Annexes, are deleted and replaced with the following Contents Table, Interpretation of Terms, and Schedules 1, 2, 3, 4, 5, 6, 7 and 8:

CONTENTS

INTERPRETATION OF TERMS

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

Any term or expression already defined in the Regulations shall be taken to have the same meaning as provided in the Regulations;

"Another Relevant Person" in relation to relevant convictions is as defined in Section 74(7) of the Environmental Protection Act 1990;

"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;

"Abnormal Operation" for the purposes of Schedule 5 of this Permit, means a Breakdown which results in any ELV specified in this Permit being exceeded.

"Breakdown" for the purposes of Schedule 5 of this Permit, means a stoppage, disturbance or failure of any piece of plant or equipment which forms part of the incineration plant which may cause a breach of any condition of this Permit.

"CEMS" means Continuous Emission Monitoring Systems;

"Cessation of Commissioning" means the earliest to occur of either (a) the date of issue of the takeover certificate, or (b) 9 months after first burning of any waste as part of Commissioning, unless otherwise agreed in writing with SEPA;

"CHPQA" means the programme carried out on behalf of the Department of Energy and Climate Change which provides a methodology for assessing the quality of CHP schemes in terms of their energy efficiency and environmental performance. This methodology is based on Threshold Criteria which must be met or exceeded in order for the whole of the scheme to qualify as 'Good Quality' CHP. Further details can be found on the website www.chpqa.com;

"Commissioning" means the commencement of the operation 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);

"First Operation" means the first burning of waste for incineration, after the Cessation of the Commissioning activities;

"First Year of Operation" means the first year of operation of the incineration plant commencing after the Cessation of the Commissioning activities, the date of which shall be specified in writing by SEPA;

"Hazardous Substance" means substances or mixtures as defined in Article 3 of Regulation (EC) No 1272/2008 of the European Parliament on classification, labelling and packaging of substances and mixtures;

"Heat and Power Plan" means the plan that contains as a minimum, the information specified in Annex 2 of SEPA's Thermal Treatment of Waste Guidelines;

"High level of energy efficiency" means that energy efficiency specified in SEPA's TTWG;

"Incident" means any of the following situations:

a) where an accident occurs which has caused or may have the potential to cause pollution;

b) where any malfunction, breakdown or failure of plant or techniques is detected which has caused or may have the potential to cause pollution;

c) 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;

d) where an emission of any pollutant not authorised to be released under any condition of this Permit is detected; or,

e) 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" and "Incineration Plant" have the same meaning as in the Regulations;

"Industrial Emissions Directive" or "IED" means Directive 2010/75/EU on Industrial Emissions (Integrated Pollution Prevention and Control) (Recast);

"Location Plan" means the plan attached at Figure 2 in Schedule 1;

"Operator" means the person who has control over the operation of the installation;

"Operation" has the same meaning as in The Pollution Prevention and Control (Scotland) Regulations 2012, A Practical Guide (Part A Activities);

"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;

"Quality Index value" has the same meaning as defined and calculated in the relevant CHPQA guidance method as published at www.chpqa.com;

"the Regulations" means The Pollution Prevention and Control (Scotland) Regulations 2012, SSI 2012 No. 360;

"Relevant Hazardous Substances" (RHS) - are those Hazardous Substances that are capable of contaminating soil and groundwater based upon consideration of the chemical and physical properties of the substance.

"Residues" has the same meaning as in Article 43 of the Industrial Emissions Directive;

"Ringleman Shade 1" has the same meaning as in British standard BS 2742:1969;

"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 green in the Site Plan;

"Site Plan" means the plan attached at Figure 1 in Schedule 1;

"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;

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

"Thermal Treatment of Waste Guidelines" or "TTWG" means the guidelines entitled "SEPA's Thermal Treatment of Waste Guidelines 2014" or any revision of those guidelines as subsequently published on SEPA's website at www.sepa.org.uk;

"Waste" has the same meaning as in the Regulations;

"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:

a) "day" means any period of 24 consecutive hours;

b) "week" means a period of 7 consecutive days;

c) "month" means a calendar month;

d) "quarter" means a calendar quarter

e) "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 activities specified in paragraph 1.1.3 are 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") of the Permitted Installation is delineated in green on the Site Plan;

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

1.1.3 The Activities carried out at the Stationary Technical Unit are:

1.1.3.1 the incineration of waste which is described in Part A of Section 5.1 paragraph (b) in Chapter 5 of Part 1 of Schedule 1 to the Regulations as Incineration of non-hazardous waste with the exception of waste which is biomass or animal carcasses; and

1.1.3.2 the disposal of non hazardous waste which is described in Part A of Section 5.4(a)(iii) in Chapter 5 of of Part 1 of Schedule 1 to the Regulations at an installation with a capacity exceeding 50 tonnes per day by pre-treatment of waste for Incineration.

1.1.4 The Stationary Technical Unit comprises the following units:

1.1.4.1 The Fluidized Bed Plant, which comprises the following units:

a) two bubbling fluidised bed incinerators, for the incineration of non-hazardous waste at temperatures above 850°C, each capable of burning 10.0 tonnes of waste per hour;

b) waste reception, inspection, preparation and storage areas, comprising: a tipping hall, shredder; 2 hammer mills; a refuse derived fuel store; waste conveyor systems; and metals recovery systems, comprising magnetic separation and eddy current separation;

c) boiler water treatment system, for demineralising and chemical dosing of the boiler water;

d) cooling water system comprising a cooling tower and associated pipework and heat exchangers;

e) gas cleaning and conditioning units on each line comprising: dual cyclone separators; carbon and lime injection; ammonia SNCR system; and bag filtration plant;

f) an odour abatement unit comprising activated carbon adsorption filters; and

g) residues treatment and storage areas comprising: a cyclone ash silo with a capacity of 60 m^3; filter ash silo with a capacity of 60m^3; and a bed ash handling system.

h) A turbine and electrical generator to supply power to the National Grid;

and:

1.1.4.2 The Moving Grate EFW CHP Plant which comprises the following units:

(a) waste reception building comprising: a tipping hall with waste delivery pit of 1,161m^3 capacity, a single waste storage bunker of 4,413m^3 capacity, a feed hopper and a quarantine area, all within an enclosed building fitted with a fast acting roller shutter door and self-closing louvres;

(b) a single inclined reciprocating moving air-cooled grate incinerator for the incineration of non-hazardous waste at temperatures above 850°C, comprising a four pass vertical water tube boiler, capable of incinerating up to 153,216 tonnes per annum, (typically 110,000 tonnes per annum based on a design point throughput of 13.7t/hr at LCV10.5MJ/kg, and an operational availability of 8000 hours);

(c) a heat recovery boiler in which heat from the combustion gases is recovered, to generate superheated steam which is passed to a steam turbine and associated electrical generator, capable of generating up to 8.7MWe for export to the National Grid. Steam is extracted from the turbine and fed into a steam network for export of up to 19.58 MWth to other users, (including up to 9.8MWth for export to Michelin Tyre PLC).

(d) A demineralised water production plant, capable of producing 23m^3/hr and comprising ion exchange demineralisation.

(e) A cooling system, comprising a carbon steel and aluminium finned Air Cooled Condensor (ACC) and associated pipework;

(f) flue gas cleaning and conditioning systems, comprising: a urea Selective Non-Catalytic Reduction (SNCR) system to control NOx emissions; dry scrubbing by calcium hydroxide (lime) injection for the abatement of acid gases and powdered activated carbon (PAC) injection for the abatement of dioxins/furans, volatile organic compounds (VOCs) and heavy metals; and a bag filtration plant for the removal of particulate matter. The flue gas is discharged to atmosphere via an induced draft (ID) fan through a 90m stack;

(g) Ash residues treatment and storage, comprising incinerator bottom ash (IBA) collection hoppers, conveying system, a water-filled quenching system and storage in a bunker with a capacity of 356m^3;

(h) Air pollution control residue (APCr) collection hoppers, conveyors and a storage silo, with a capacity of 160m^3 and associated tanker discharge valve;

(i) Process Water collection systems, comprising a Clean Water collection pit, for the collection of Process Water from the boiler blow-down drain, regeneration and sampling of demineralised water, and return condensate

drains, and a Dirty Water collection pit for the collection of Process Water from the ash handling operations including the ash bunker, ash loading area, ash conveyors, and quench bath, both for re-use in the ash handling water make up system;

(j) a Neutralisation tank for the collection, sampling and neutralisation of Surface Water from the flue gas treatment area and APC residue lorry loading area, prior to discharge to the public foul sewerage system;

(k) continuous emissions monitoring system (CEMS) process monitoring equipment with associated data management and recording system;

(l) an odour abatement unit, comprising dust filtration and carbon adsorption for the collection and treatment of odorous air, during periods when the incineration process is shut down;

(m) silos for the storage and handling of raw materials, including Powdered Activated Carbon (PAC) and calcium hydroxide, and external bulk storage tanks for urea and gas oil ;

(n) Site utilities and services not described elsewhere in this Schedule, including control systems for the operation of the permitted installation; compressed air systems; an 800kVA output diesel-oil fired emergency generator and associated Uninterruptable Power Supply (UPS) for safe shut down in the event of a power loss; fire-fighting water storage, delivery and containment systems; weighbridge.

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

a) the delivery and dispatch of raw materials, wastes and residues to and from the Site;

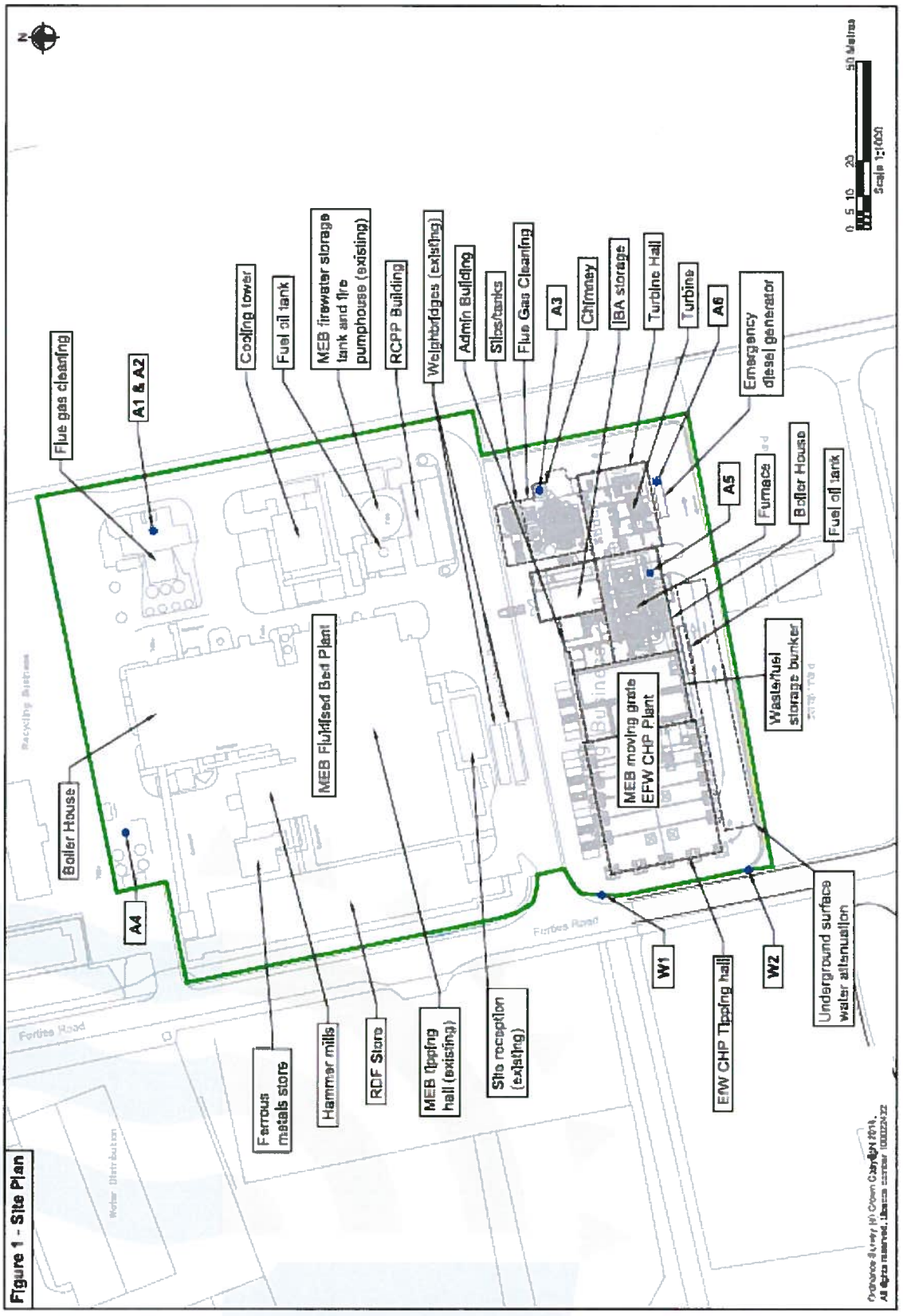
b) storage of supplementary raw materials;

c) Storage and bulk transfer of waste when the incineration is off line;

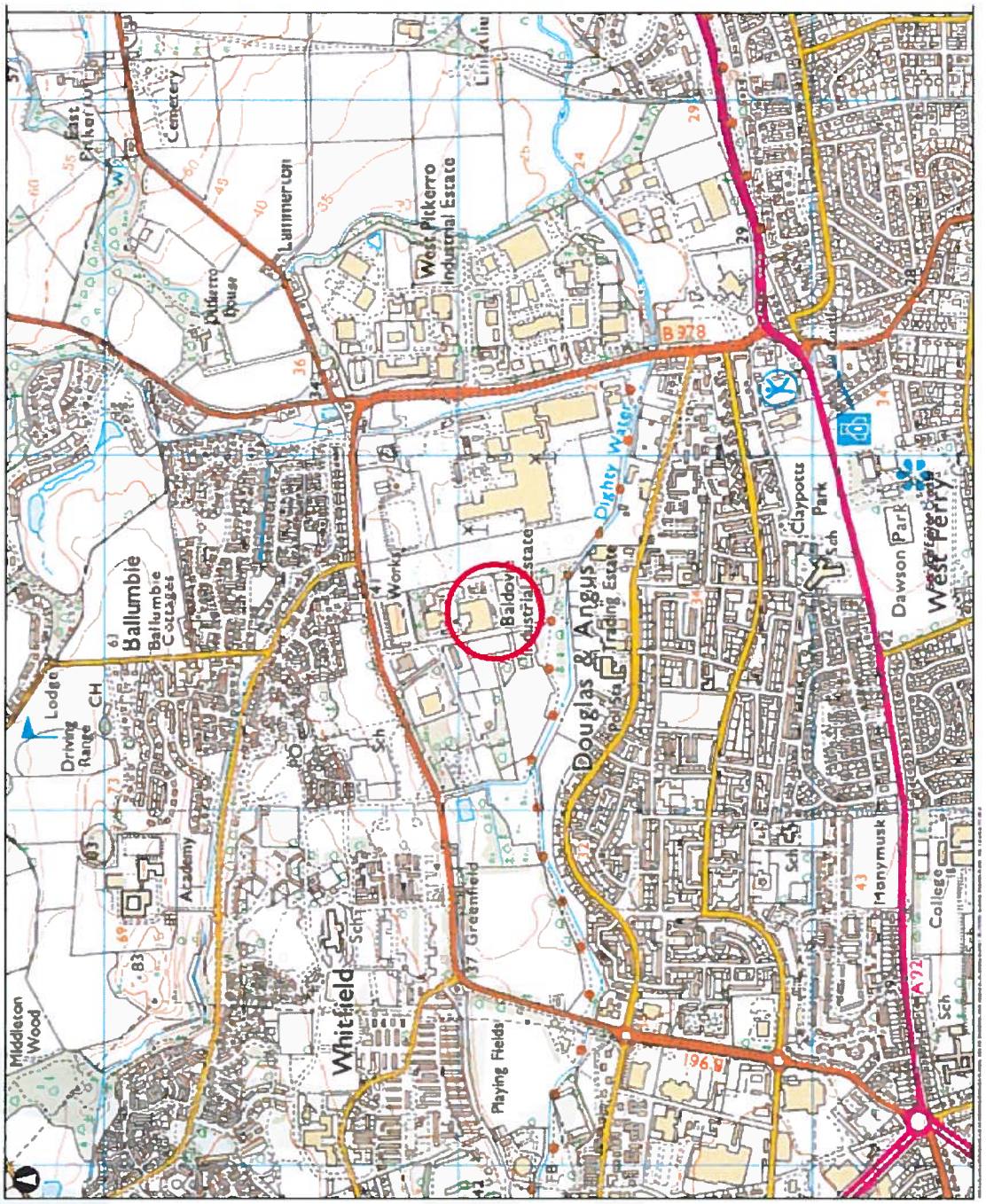
1.1.6 The administrative offices, mess facilities, and car park are not part of the Permitted Installation.

1.1.7 For the purposes of this Permit, the Activity and Directly Associated Activities shall be known together as "the Permitted Activities".

1.2 Figure 1 - Site Plan



1.3 Figure 2 - Site Location



2 GENERAL MANAGEMENT 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 it's 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 Operators' 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.

2.2.5 Where any condition of this Permit requires information to be recorded a record shall be maintained and, where appropriate, reviewed by the date(s) specified in Table 2.1.

2.3 Reporting

2.3.1 Where any condition of this Permit requires information to be reported, a report shall be forwarded to SEPA 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, Permit Condition number and the name of the Operator.

2.3.2 Unless submission in electronic format has been agreed in writing with SEPA, the reports referred to in Condition 2.3.1 shall be forwarded to SEPA in duplicate

to the address specified by SEPA. Where electronic reporting has been agreed submission should be to the email address specified by SEPA.

2.3.3 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.

2.3.4 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 by the date/ period specified in Table 2.1. All such notifications shall include the Permit number, Permit Condition number and the name of the Operator.

2.4 Data Reporting

2.4.1 The Operator shall complete a quarterly waste data report, the "Licensed/Permitted Site Returns Form" located on SEPA's website at www.sepa.org.uk. This form shall be completed and submitted to the address specified by SEPA within 28 days of the last day of March, June, September and December each year.

2.4.2 The Operator shall provide an annual summary report to SEPA containing the results of monitoring carried out in compliance with Conditions 6.3.9, 6.4.5, 8.1.5 and 8.1.6; notifications reported under Condition 2.5.4, 5.4.3 and 6.2.10; and an account of the functioning and running of the incineration plant. This report shall give an explanation and interpretation of any trends or exceedances in the information submitted.

2.5 Incidents

2.5.1 In the event of an Incident, all necessary measures shall immediately be taken:

a) to prevent, or where that is not practicable, to reduce emissions from the Permitted Installation:

b) to limit the environmental consequences as a result of that Incident; and

c) to prevent further possible Incidents.

2.5.2 Without prejudice to the requirements of condition 2.5.1, in the event of a breach of any condition of this Permit the operator shall immediately take the measures necessary to ensure that compliance is restored in the shortest possible time.

2.5.3 Notwithstanding the requirements of Condition 2.5.1 and 2.5.2 where a breach of any condition of this Permit poses an immediate danger to human health, or threatens to cause an immediate significant adverse effect on the environment, the operator shall suspend operation of the Permitted Installation or relevant part thereof until such time as it can be operated in compliance with this Permit.

2.5.4 In the event of an Incident and/or a breach of any condition of this Permit, the Operator shall notify SEPA by telephone without delay to 0800 80 70 60. A

notification that relates to an incident shall include, as far as practicable, the information specified in Condition 2.5.5.

2.5.5 The Operator shall confirm any Incident to SEPA in writing to the address specified by SEPA 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.

2.5.6 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.

2.5.7 Prior to Commissioning of the Installation or part thereof, the Operator shall prepare, implement and maintain an "Incident Prevention and Mitigation Plan". This plan shall set out the steps to be taken by the Operator to ensure that all preventative measures are in place to avoid an Incident to any medium, and that any Incident that does occur is mitigated in the most appropriate manner.

2.5.8 At least every 2 years the Operator shall review the Incident Prevention and Mitigation Plan required under Condition 2.5.7. Each review of the Incident Prevention and Mitigation Plan shall be recorded and where the Operator makes any revisions to the said plan said revisions shall be recorded.

2.6 Resource Utilisation

2.6.1 Over the specified 4 year period, the Operator shall carry out a systematic assessment to determine:-

2.6.1.1 how and where raw materials (including water and fuel) and energy are used within the Permitted Installation;

2.6.1.2 the quantities of raw materials (including water and fuel) and energy that are used within the Permitted Installation;

2.6.1.3 how and where emissions and wastes are generated within the Permitted Installation;

2.6.1.4 the quantities of emissions and wastes generated within the Permitted Installation;

2.6.1.5 how and where raw materials (including water) and energy can be utilised more efficiently within the Permitted Installation to minimise emissions and waste; and

2.6.1.6 which identified opportunities/projects, within a specified timeframe, will be implemented at the Permitted Installation.

The objective of this systematic assessment is to identify and implement any opportunities and / or projects, on an on-going basis, to:-

a) increase the efficiency of raw materials (including water and fuel) and energy;

b) prevent, or where that is not practicable, minimise emissions and wastes generated through the inefficient operation of the Permitted Installation or associated processes; and

c) reuse by-products (including heat and power) generated, where applicable, either from the Permitted Installation or from other activities .

When submitting the findings of the assessment, a summary of the progress of each of the opportunities / projects identified from the systematic assessment must be included. SEPA reserve the right to periodically review progress of these opportunities and projects during inspections of the Permitted Installation undertaken throughout the 4 year assessment period.

The assessment shall be recorded using the "systematic assessment of resource use and efficiency template", (available at www.sepa.org.uk) or equivalent format as agreed by SEPA, and reported to SEPA at the end of the 4 year assessment cycle (as specified in Table 2.1).

2.6.2 Annual data totals of raw materials (including water and fuel consumed) energy utilised, emissions and waste produced within the Permitted Installation, shall be recorded by the Operator annually in the relevant section of the "systematic assessment of resource utilisation" template. The Operator shall report that data to SEPA within 28 days of the end of the 4 year assessment cycle.

2.6.3 For the purposes of Conditions 2.6.1 and 2.6.2, "raw materials, energy and fuel" shall mean the materials listed in Table 2.2.

2.7 Heat and Power Conditions

2.7.1 The Operator shall operate the Permitted Installation in such a manner as to ensure that the recovery of energy takes place with a High level of energy efficiency. No later than the Cessation of Commissioning of the Moving Grate EFW CHP plant, the Permitted Installation shall meet the start-up energy efficiency benchmarks in SEPA's Thermal Treatment of Waste Guidelines (TTWG).

2.7.2 The Operator shall maintain a Heat and Power Plan and review and update it annually, with a report submitted to SEPA no later than 31 January of each year.

2.7.3 The reviewed and updated Heat and Power Plan shall contain as a minimum the information as specified in Annex 2 of the TTWG and shall:

a) demonstrate how the plant is moving towards good quality combined heat and power status;

b) demonstrate how the plant is working towards complying with the criteria for achieving certification under the CHPQA standard; and

c) include calculations to report the CHPQA Quality Index value and indicative efficiency for the reporting year and an assessment of that performance.

2.7.4 Within 7 years from the date of First Operation of the Moving Grate EFW CHP Plant, the total quantity of energy recovered in the form of electrical or heat energy or a mix of electrical and heat energy shall exceed the amount of energy equivalent to a CHPQA Quality Index value of 93 or an indicative efficiency of 35%.

2.7.5 In the event that the operator considers that compliance with condition 2.7.4 is not likely, due to circumstances out with its control, the operator shall submit to SEPA in writing the details of those circumstances and the reasons for the likely non-compliance, with reference to the provisions of the Thermal Treatment of Waste Guidelines and the most recently agreed Heat & Power Plan. Such notification shall be provided to SEPA at least 3 months prior to the deadline for compliance with condition 2.7.4, together with information on the Operators proposals on how and when the requirements of condition 2.7.4 will be met.

2.7.6 Where the operator complies with condition 2.7.5, the requirements of condition 2.7.4 will be dis-applied until such time as the operator has received written confirmation from SEPA (which refers to the provisions of the Thermal Treatment of Waste Guidelines and the most recently agreed Heat & Power Plan) that either (a) the requirements of condition 2.7.4 continue to apply, or (b) condition 2.7.4 is varied by issue of a variation notice by SEPA under regulation 46."

2.8 Prior Commissioning and Prior Operating Conditions

2.8.1 By 31 May 2019, the Operator shall provide SEPA with a detailed plan of the implementation programme from construction through to Commissioning ("the Construction and Commissioning Plan") for the Moving Grate EFW CHP Plant. Said Plan should include the best estimates of the start date for each major stage of construction and Commissioning, and for the planned commencement of burning on oil and on waste.

2.8.2 An update of progress against the Construction and Commissioning Plan programme, required by Condition 2.8.1, shall be provided to SEPA quarterly, within 10 days of the last day of March, June, September and December, each year, until the Report required by Condition 2.9.7 is submitted.

2.8.3 Notwithstanding Condition 2.7.2, no later than six months prior to the planned burning of any fuel or waste as part of Commissioning of the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, the Operator shall submit an updated version of the Heat and Power Plan provided in the variation applied for under the Regulations. The updated heat and power plan shall:

a) set out the steps to be taken to recover and use energy from the Permitted Installation with a high level of energy efficiency;

b) as a minimum contain the information specified in Annex 2 of the TTWG;

c) confirm the proposed outlets agreed in principle with third parties for heat and power;

d) confirm the proposed timescales for implementation of Condition 2.8.1(c);

e) provide updated evidence to SEPA in writing, including the quantity and date of commencement of supply, that permission has been granted in writing from the relevant competent authority, company or companies, to export:

(i) electricity to the National Grid; and

(ii) heat/steam to Michelin Tyre plc and/or another user(s);

f) confirm the details of the construction timetable to ensure that the infrastructure required for exporting electricity to the National Grid will be in place prior to the First Operation. Also, confirm the details of the construction timetable for the heat and/or steam supply infrastructure together with heat uptake contracts, or a combination of both in order to meet the start up threshold requirements as specified in the TTWG.

2.8.4 No later than three months prior to the planned burning of any fuel or waste as part of Commissioning of the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, the Operator shall confirm to SEPA in writing, that infrastructure for exporting electricity to the National Grid, and heat/steam to Michelin Tyre plc and/or another user(s) has (have) been completed and that on First Operation of the Moving Grate EFW CHP Plant said electricity shall be exported in order to meet the start up threshold requirements as specified in the TTWG.

2.8.5 No later than three months prior to the planned burning of any fuel or waste as part of Commissioning in the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, the Operator shall submit to SEPA a report outlining the proposed methodology to verify compliance with Condition 5.1.1 (b), and (c) on Commissioning. Said methodology shall make reference to the requirements set out in Environment Agency R&D Technical Report P4-100/TR Part 2 (Validation of Combustion Conditions) November 2001 or other equivalent methodology or standard as agreed in writing with SEPA.

2.8.6 No later than 9 months prior to the planned burning of any fuel or waste as part of Commissioning of the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, the Operator shall submit to SEPA the Soil and Groundwater Monitoring Plan required by Condition 7.3.7, for agreement. Said Plan shall include locations, a construction timetable, and details of the design(s) for the groundwater monitoring boreholes, for the collection of groundwater samples across the whole Permitted Installation.

2.8.7 No later than 6 months prior to the planned burning of any fuel or waste as part of Commissioning of the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, and following SEPA's written agreement to the Groundwater Monitoring Plan locations, required by Condition 2.8.6, the groundwater monitoring boreholes, referred to in Condition 2.8.6 shall be constructed as agreed. Additionally, soil samples shall be collected from all of the said boreholes during their construction, for subsequent analysis, as required by Condition 7.3.6.

2.8.8 A borehole construction report shall be submitted to SEPA within 1 month of completion of the boreholes required by Conditions 2.8.6 and 2.8.7. Said report

shall include all borehole construction logs, as well as the depth of all groundwaters encountered, and details of the soil sampling depths during installation. All depths to be recorded in metres Above Ordnance Datum (mAOD).

2.8.9 No later than 3 months prior to the planned burning of any fuel or waste as part of Commissioning of the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, the first assessment from the monitoring of Relevant Hazardous Substances (RHS) in the groundwater, as required by Condition 7.3.5, and the soils, as required by condition 7.3.6, shall be submitted to SEPA.

2.8.10 At least two months prior to the acceptance of any waste into the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, the building integrity and the effectiveness of the air extraction system in minimising fugitive odour shall be assessed by smoke testing and a report submitted to SEPA within one month of the test.

2.8.11 At least one month prior to carrying out the first smoke test, required by Condition 2.8.10 the methodology for the smoke testing shall be submitted to SEPA for agreement.

2.8.12 No later than 9 months prior to the planned burning of any fuel or waste as part of Commissioning of the Moving Grate EFW CHP Plant, indicated in the Construction and Commissioning Plan required by Condition 2.8.1, the Operator shall provide SEPA with a report detailing how BAT has been applied to prevent or reduce noise from individual noise sources identified in the Noise Mitigation Strategy report Number M139854/01 by Muller-BBM, ("Muller-BBM report M139854/01") dated 29 August 2018. As a minimum the said report shall include the following:

a) an assessment of different options to determine which techniques and/or equipment achieve the lowest combined noise levels during normal operations;

b) an assessment of the potential differences in noise levels during abnormal, start-up, shut-down, and emergency operational conditions, and indicate additional measures to be utilised during each of these operational conditions;

c) a sensitivity analysis of any potential impact on noise receptors, particularly those identified at locations F&G, in the Muller-BBM report M139854/01 Appendix A.

d) a sensitivity analysis of any impact on all noise receptors due to any planned removal of the Fluidised Bed Plant and any associated infrastructure or part thereof;

e) the assessments and analysis shall take into account the predicted 4m bedroom height level for night time modelling analysis, in addition to the 1.5m level used for daytime surveys indicated in the Muller-BBM report M139854/01.

2.8.13 At least 2 months prior to the planned burning of any fuel or waste as part of Commissioning of the Moving Grate EFW CHP Plant, indicated in the

Construction and Commissioning Plan required by Condition 2.8.1, the Operator shall submit to SEPA a Plan to demonstrate how Condition 2.9.8 will be met.

2.8.14 Until the Operator has received confirmation from SEPA in writing that Conditions 2.8.1 to 2.8.13 have been complied with to SEPAs satisfaction, the Operator shall not:

(a) carry out any Commissioning; or

(b) carry on any of the Permitted Activities.

2.9 Commissioning Conditions

2.9.1 The Operator shall not carry out any Permitted Activities, or any new or substantially changed activities following on from a significant modification or change to the Permitted Installation, except as part of Commissioning notified to SEPA in compliance with Condition 2.9.3 until:-

(a) Conditions 2.9.2 to 2.9.7 inclusive have been complied with; and

(b) the Operator has received confirmation from SEPA in writing that those conditions have been complied with.

2.9.2 Prior to carrying out any Commissioning, the design features necessary to ensure compliance with any condition of this Permit shall be checked to ensure they have been installed as per design. The scope and outcome of said checks shall be reported to SEPA.

2.9.3 At least 28 days, or such period as otherwise agreed in writing with SEPA, prior to carrying out any Commissioning, the Operator shall notify SEPA in writing of a Commissioning Plan to include the following:

a) details of the work to be carried out including each test required by Condition 2.9.4;

b) the purpose of said work and how it will be undertaken;

c) the proposed dates on which the said work will be started and completed; and

d) the criteria for determining when the Commissioning has ceased.

2.9.4 When carrying out any Commissioning the Operator shall carry out tests to:

a) demonstrate that the Permitted Installation can be operated in compliance with the conditions of this Permit;

b) demonstrate that the furnace residence time, secondary combustion zone temperature and minimum oxygen content are consistent with the requirements of Condition 5.1.1 (c) and (d) under the most unfavourable operating conditions anticipated in accordance with the methodology submitted under 2.8.5;

c) demonstrate the operation of the controls and interlocks installed to ensure compliance with condition 5.3.1 to 5.3.3;

d) demonstrate that the quality of the ash residues complies with the requirements of Table 8.1 and Condition 5.1.1(a);

e) confirm compliance with the emission limit values specified in Table 6.2 and Table 7.1;

f) demonstrate the 95% confidence levels of the CEMS comply with the criteria specified in paragraph 1.3 of Part 6, Annex VI of IED; and

g) confirm compliance with Quality Assurance Levels 1, 2 & 3 as specified in British Standard BS EN 14181 for continuous emissions monitoring equipment.

2.9.5 For the period of any Commissioning the Operator shall submit a monthly report containing a summary of:

i. the Commissioning undertaken during the preceding month;

ii. details of all tests carried out under Condition 2.9.4 during the preceding month;

iii. the results of any such tests received during the preceding month;

iv. the justification for any delays from the dates notified under Condition 2.9.3 c); and

v. where appropriate, confirmation that the criteria detailed in the notification required by Condition 2.9.3 d) have been met.

2.9.6 Notwithstanding any other condition in this Permit, should any test required by Condition 2.9.4 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 which is the subject of the test, until either:

a) SEPA has given written permission for said part of the Commissioning to continue; or

b) (i) the Operator has proposed in writing to SEPA remedial action to ensure compliance with the conditions of this Permit;

(ii) those actions have been agreed with SEPA in writing; and

(iii) those actions have been implemented.

2.9.7 Within one month of Cessation of Commissioning of the Moving Grate EFW CHP Plant, the Operator shall prepare and submit to SEPA a written report which demonstrates that all of the conditions of the permit can be complied with in full.

2.9.8 During Commissioning of the Moving Grate EFW CHP Plant, no waste shall be simultaneously incinerated in the Fluidized Bed Plant and the Moving Grate EFW CHP Plant.

2.9.9 Following First Operation of the Moving Grate EFW CHP Plant, waste shall cease to be incinerated in the Fluidized Bed Plant.

2.10 Start-up and Shut-down

2.10.1 By 3 months prior to burning waste as part of the Commissioning of the Permitted Installation or part thereof, 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.

2.10.2 At least every 2 years the Operator shall review the Start-up and Shut-down Plan required under Condition 2.10.1. Each review of the plan shall be recorded and where the Operator makes any revisions to the plan, these revisions shall be recorded.

2.11 De-commissioning

2.11.1 The Operator shall 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.

2.11.2 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 one month prior to the proposed date of cessation.

2.11.3 The Operator shall implement the De-commissioning Plan on final cessation of the Permitted Activities or any part thereof.

2.11.4 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.

2.12 Technical Competence and Staffing

2.12.1 All staff or persons engaged in carrying on the Permitted Activities shall be provided with adequate professional and technical development; training and written operating instructions to enable them to carry on their duties, and to ensure they are fully conversant with those aspects of the Permit Conditions which are relevant to those duties.

2.12.2 The Operator shall maintain a record of the skills and training requirements for each job and shall keep records of all relevant training.

2.12.3 The Permitted Installation shall be managed and supervised by a designated technically competent person to ensure that the conditions of the Permit are complied with.

2.12.4 The Operator shall inform SEPA in writing of all persons, and their qualifications, engaged in the operation or management of the Permitted Installation who are designated as technically competent.

2.12.5 Where the Operator or Another Relevant Person is convicted of an offence prescribed under section 74(6) of the Environmental Protection Act (EPA) 1990 for the purposes of section 74(3)(a) of EPA 1990 the Operator shall notify SEPA within 7 days of the conviction, whether or not the conviction is subsequently appealed.

2.13 Financial Provision

2.13.1 The Operator shall ensure that the financial provision as required by Regulation 18(4) (b) of the Regulations is maintained until the Permit is surrendered.

2.13.2 No later than three months prior to a proposed change to any material particular of the financial provision set in place under Condition 2.13.1, the Operator shall notify SEPA of the details of that proposed change.

2.13.3 For the purposes of Condition 2.13.2, material particulars of the financial provision used to satisfy Condition 2.13.1 shall include but not be limited to:

a) The provider of the financial instrument;

b) The type and form of financial provision; and

c) A change in any condition in relation to the financial provision including its determined value

2.13.4 The Operator shall not proceed with any proposed change to the financial provision until they have received agreement in writing from SEPA.

Table 2.1: Recording, Reporting and Notification Requirements

Required by Condition 2.2.5 and 2.3.1

Summary of information to be recorded/ reported	Condition	Review Frequency	Date first record due to be completed	Date reports due
Primary and deputy point of contact with SEPA	2.1.1 2.1.2	Without delay where there is a change of contact	N/A	Within 4 weeks of date of Permit
Systems or procedures used to demonstrate compliance with a Condition of this Permit	2.1.4	As determined by variations, reviews and consolidation of permit	2 months prior to Commissioning	NA
Non-operation during any relevant reporting period in Table 2.1	2.3.3	As required	N/A	Within 1 month of end of the reporting period concerned
Waste Data Returns	2.4.1	Every 3 months 28 days from the end of each quarter	N/A	First date of 28 January, 28 April, 28 July or 28 October after grant of Permit
Annual Report	2.4.2	Annually by 31 January each year	N/A	Annually by 31 January after grant of permit

Summary of information to be recorded/ reported	Condition	Review Frequency	Date first record due to be completed	Date reports due
Incident initial report	2.5.5	N/A	N/A	By next working day after identification on the Incident
Incident investigation report	2.5.6	N/A	N/A	Within 14 days of incident date unless otherwise agreed in writing with SEPA
Incident Prevention and Mitigation Plan and review thereof	2.5.7 and 2.5.8	2 years	3 months prior to Commissioning or part thereof	N/A
Resource utilisation systematic assessment and review and summary report of summary of raw material consumption efficiency / waste minimisation projects	2.6.1	4 years	4 years from issue date of permit	Every 4 years from issue date of permit
Heat and Power Plan	2.7.2	Annually by 31 January each year	N/A	6 months prior to Commissioning
Construction and Commissioning Plan	2.8.1	N/A	N/A	31 May 2019
Construction and Commissioning quarterly updates	2.8.2	N/A	10 July 2019	within 10 days of the last day of March, June, September and December
Heat & Power Plan update prior to commissioning of the Moving Grate EFW CHP Plant	2.8.3	N/A	As right	6 months prior to Commissioning or part thereof
Confirmation infrastructure for exporting electricity / heat or steam completed	2.8.4	N/A	N/A	3 months prior to Commissioning or part thereof
Report outlining proposed methodology to verify compliance temperature, residence time and minimum oxygen requirements for Moving Grate EFW CHP Plant	2.8.5	N/A	N/A	3 months prior to Commissioning
Groundwater borehole (location, with design and construction details) as part of soil and groundwater	2.8.6/7.3.7	N/A	As right	At least 9 months prior to Commissioning of the Moving Grate

Summary of information to be recorded/ reported	Condition	Review Frequency	Date first record due to be completed	Date reports due
monitoring plan (for whole site)				EFW CHP Plant
Borehole construction and soil sample collection	2.8.7	N/A	As right	At least 6 months prior to Commissioning of the Moving Grate EFW CHP Plant
Borehole construction report & sampling log	2.8.8	N/A	As right	By 1 month after construction of boreholes completed
Groundwater & soils monitoring assessment	2.8.9 (& 7.3.5)	N/A	As right	At least 3 months prior to Commissioning of the Moving Grate EFW CHP Plant
Smoke test and report	2.8.10 & 3.2.7	Annually	As right	At least 2 months prior to accepting waste into the Moving Grate EFW CHP Plant
Smoke test methodology	2.8.11	N/A	As right	At least 1 month prior to undertaking test required by 2.8.10
Noise reduction (final design) for Moving Grate EFW CHP Plant	2.8.12	N/A	At least 9 months prior to the commissioning of the Moving Grate EFW CHP Plant	N/A
Report on how 2.9.8 to be met	2.8.13 (2.9.8)	N/A	As right	At least 2 months prior to Commissioning of the Moving Grate EFW CHP Plant
Confirmation that design features are compliant	2.9.2	N/A	N/A	Prior to Commissioning
Commissioning progress report	2.9.5	Monthly during Commissioning	N/A	One month after Commencement of Commissioning
Final Commissioning report	2.9.7	N/A	N/A	Within 1 month of Cessation of Commissioning
Start-up and Shut-down Plan	2.10.1 & 2.10.2	2 years	3 months prior to Commissioning	N/A
Decommissioning Plan	2.11.1 & 2.11.4	4 years	12 months after completion of	N/A

Summary of information to be recorded/ reported	Condition	Review Frequency	Date first record due to be completed	Date reports due
			Commissioning	
Notification of Permanent cessation of Permitted Activities	2.11.2	N/A	N/A	1 month prior to cessation
Skills and training requirements	2.12.2	As required	3 months prior to Commissioning	N/A
Persons engaged in the operation or management of the installation	2.12.4	As required	N/A	Prior to First Operation
Conviction of a Relevant Offence	2.12.5	As required	N/A	Notification within 7 days of conviction
Systematic noise assessment and record of action taken	3.1.1	4 years or whenever equipment with a noise output which could have an impact on noise sensitive receptors is replaced or moved	As right	Within 3 months of the Commencement of Commissioning
Noise and Vibration Management Plan	3.1.2 & 3.1.3	4 years or whenever there is a change which could impact emissions	As right	3 months prior to Commissioning
Noise monitoring validation report	3.1.5	N/A	As right	Within 4 months of First Operation of the Moving Grate EFW CHP Plant
Odour Management Plan	3.2.2 3.2.5	2 years or whenever there is a change which could impact emissions	As right	3 months prior to Commissioning
Olfactory surveys	3.2.4	As required	From issue date of permit	N/A
Pest control inspection and details of any subsequent treatment	3.5.2	Daily inspections and as required for subsequent treatment	Monthly	N/A
Quantity of waste incinerated	4.2.3	Daily / Monthly	From first acceptance of waste	See 2.4.1
Monitoring, recording and where practicable inspection of waste deliveries	4.3.1 4.3.2	Each delivery	From first acceptance of waste	N/A
Refusal to accept waste load	4.3.3	As required	As right	Within14 days unless otherwise agreed in writing with SEPA

Summary of information to be recorded/ reported	Condition	Review Frequency	Date first record due to be completed	Date reports due
Quarantined waste	4.3.4	As required	From first acceptance of waste	N/A
Off-site waste disposal	4.3.5	As required	From first acceptance of waste	N/A
Cleaning of storage areas	4.5.6	As required	From first acceptance of waste	N/A
Rate at which the waste is fed into the incineration plant.	5.2.1	Hourly	From first addition of waste during Commissioning	N/A
Oxygen and temperature monitoring records	5.2.2 5.2.3	Continuous	From first addition of waste during Commissioning	N/A
Non-utilisation of heat recovery system	5.2.5	As required	From issue date of permit	As required
Recording and Reporting of periods of Abnormal Operation	5.4.3 5.4.5	As required	From First Operation following Cessation of Commissioning	Without delay as per 2.5.5 and 2.5.6
Recording of tests and data used in emission correction	6.1.4	As required	From issue date of permit	N/A
Mass emissions to air	6.1.12	Annually	From issue date of permit	31 January following First Operation
Information used to estimate mass emissions to air	6.1.13	Annually	From issue date of permit	N/A
Results of AST & QAL 2 Tests	6.2.7	Annually within 3 months of completion	As right	Within 6 months of the start of commissioning of the incineration plant
QAL 3 procedure and associated records	6.2.8	As required	One month prior to commissioning of the CEMS	N/A
Monitoring equipment calibration inaccuracies	6.2.10	As required	N/A	Within one day of identification
Public reporting of CEM data on internet	6.2.14	Continuous	As right	From First Operation of the Moving Grate EFW CHP Plant

Summary of information to be recorded/ reported	Condition	Review Frequency	Date first record due to be completed	Date reports due
Continuous monitoring of emissions to air	6.3.1 & 6.3.9	Quarterly reporting within one month of the end of each quarter.	From first addition of waste during Commissioning	First date of 31 January, 30 April, 31 July or 31 October following First Operation following Cessation of Commissioning
Operational details during periodic monitoring	6.4.1	As required	As right	As required
Periodic monitoring	6.4.5	As required	As required	Within 1 month of sampling
Surface Water, Drainage and Spillage Plan	7.2.2 / 7.2.5	5 years	By Cessation of Commissioning	N/A
Site Drainage Plans	7.2.6	As required	From issue date of permit	N/A
Annual inspections of impervious areas	7.2.10 / 7.2.11	Annually	From issue date of Perrmit	N/A
Soil and groundwater incidents	7.3.2/ 7.3.3	As required	From issue date of permit	N/A
Assessment of measures to prevent emissions to soil and groundwater (whole site)	7.3.4	4 years	From issue date of permit	Within 1 month of completion
Groundwater monitoring	7.3.5	4 years	9 months prior to Commissioning of the Moving Grate EFW CHP Plant	Within 1 month of completion
Soil monitoring	7.3.6	10 years	9 months prior to Commissioning of the Moving Grate EFW CHP Plant	Within 1 year of date of issue of permit
Detailed methodology for groundwater and soil monitoring	7.3.7	As required	N/A	At least 6 months in advance of carrying out the monitoring
Preparation & Review of Residue management Plan	8.1.1/ 8.1.2	2 Years	From issue date of permit	Prior to Commissioning of the Moving Grate EFW CHP Plant
TOC or LOI of bottom ash	8.1.5	Weekly for first 3 months of operation then quarterly	N/A	Within one month of the analysis being completed

Summary of information to be recorded/ reported	Condition	Review Frequency	Date first record due to be completed	Date reports due
Chemical composition of fly ash	8.1.6	Weekly for first 3 months of operation then quarterly	N/A	Within one month of the analysis being completed
Residue dispatches	8.1.7	weekly	From issue date of permit	N/A

Table 2.2: Raw Materials

Required by Condition 2.6.1 and 2.6.2

Raw material, Energy or Fuel	Unit of Measurement
Electricity (from National Grid)	MWh
Electricity generated (self-use/parasitic loading)	MWh
Electricity exported	MWh
Activated carbon	Tonnes
Calcium hydroxide (hydrated lime)	Tonnes
Sulphuric Acid	Litres
Sodium Hypochlorite	litres
Urea solution	Tonnes
Ammonia	tonnes
Sand	Tonnes
Dolomite	Tonnes
Mains Water	(m3)
River Water	(m3)
Low Sulphur Gas oil	(m3 and KWh)
Natural gas	(m3 and KWh)
Boiler Water treatment chemicals	litres
Neutralising chemicals for process water	litres

3 CONDITIONS APPLYING TO THE PERMITTED INSTALLATION AS A WHOLE

3.1 Noise and Vibration

3.1.1 At least every 2 years, or within one month of any equipment with a noise output which could have an impact on noise sensitive receptors being 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 said assessment shall be to identify methods of preventing and reducing noise and vibration emissions. Each assessment, including any action taken, shall be recorded and reported to SEPA within one month.

3.1.2 The Operator shall prepare, implement, maintain and submit to SEPA a plan ("The noise and vibration management plan or NVMP"). The NVMP shall, in accordance with the findings of the assessment required by Condition 3.1.1, set out the steps to be taken by the Operator to prevent and reduce emissions of noise and vibration to ensure that no significant noise and vibration pollution is caused.

3.1.3 At least every 4 years or whenever there is a change which could have an impact on emissions of noise and vibration, the Operator shall review the NVMP required under Condition 3.1.2. Each review of this plan and any revisions shall be recorded and the revised NVMP shall be reported to SEPA.

3.1.4 Noise emissions associated with the Permitted Activities shall not contain any Audible Tonal Noise (as defined in BS4142:2014 and assessed using narrow band analysis defined in Annex D of BS4142:2014) at any residential noise sensitive receptor.

3.1.5 In order to validate the noise modelling provided in the Mueller-BBM Reports M132032/03 & M139854/01, and the report required by Condition 2.8.12, within three months of First Operation of the Moving Grate EFW CHP Plant, the operator shall carry out noise monitoring at the Site Boundary and receptors to determine the specific noise level for day-time and night-time) of the Permitted Installation. The monitoring shall be carried out during normal incineration operations in accordance with British Standard 4142:2014. The specific noise levels for day-time and night-time shall be used to validate the predicted operational noise levels. The results of the monitoring shall be recorded and submitted to SEPA with an assessment of the results, within one month of the monitoring being conducted.

3.1.6 From 31 December 2019, waste shall only be accepted at the Permitted Installation during the following hours:

Daily	0700 hours to 2000 hours

3.2 Odour Conditions

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 The Operator shall prepare, implement, maintain and submit to SEPA an Odour Management Plan ("OMP") 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. Further guidance is provided in the SEPA Odour Guidance at www.sepa.org.uk.

3.2.3 The OMP shall include:

a) identification of those process operations which have the potential to be odorous;

b) identification of techniques to ensure all sources of potentially offensive odours are, as far as practicable, enclosed;

c) procedures for managing odour particularly when parts of the process are shutdown;

d) a methodology for undertaking a daily olfactory survey of the Permitted Installation;

e) procedures for investigation, recording and subsequent remedial action following odour complaints, detection of odour during olfactory surveys, identification of a material failure or reduced abatement efficiency from the Permitted Installations odour abatement systems.

3.2.4 The Operator shall record:

a) the results of each olfactory survey;

b) the results of each investigation and any remedial action undertaken in compliance with Condition 3.2.3e).

3.2.5 At least every 2 years, or whenever there is a change which could have an impact on Emissions of odour, the Operator shall review the OMP required under Condition 3.2.2. Each review of this plan and any revisions shall be recorded and the revised OMP shall be reported to SEPA.

3.2.6 All doors and openings to any area where waste is stored shall be kept closed at all times, other than to allow entry and exit of vehicles and personnel.

3.2.7 The integrity of the infrastructure, and the effectiveness of the air extraction system in minimising fugitive odours shall be assessed annually by smoke testing, of each area where waste is stored, by a methodology agreed by SEPA under Condition 2.8.11 and the outcomes from each assessment recorded and reported to SEPA within one month of the test.

3.2.8 During any period of planned or unplanned shutdown of the incineration line(s), whenever waste is present in the tipping hall, the odorous air shall be collected and treated in the associated Odour Abatement Unit. A record of each occasion when the Odour Abatement Unit is required to be used shall be maintained.

3.2.9 Within 1 month of First Operation of the Moving Grate EFW CHP Plant, the Operator shall provide a written report to SEPA on the methodology to be used for monitoring of odour at emission point A5 when the incineration line is shut down. Said report shall include the frequency at which monitors should be carried out.

3.3 Weighbridge

3.3.1 A calibrated weighbridge shall be provided at the permitted installation.

3.3.2 On arrival at site all waste loads shall be weighed at the weighbridge required by Condition 3.3.1 and a record of the weight maintained.

3.4 Roads and Traffic Control

3.4.1 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.

3.4.2 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.

3.5 Litter, dust and vermin

3.5.1 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.

3.5.2 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.

4 CONDITIONS APPLYING TO WASTE RECEPTION, PRE-TREATMENT, 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 to 4.1.6, no waste shall be accepted in the Permitted Installation other than the wastes specified in Table 4.1.

4.1.2 Notwithstanding Condition 4.1.1, no separately collected waste shall be mixed with any other waste or any material, to the extent that mixing would hamper further recycling.

4.1.3 Notwithstanding Condition 4.1.1, no separately collected waste capable of being recycled shall be incinerated.

4.1.4 Notwithstanding Condition 4.1.1, and as far as practicable, no waste containing non-ferrous metals or hard plastics shall be incinerated.

4.1.5 Notwithstanding Condition 4.1.1 and 4.1.4, subject to condition 4.1.6, the incineration of waste industrial and automotive batteries is prohibited.

4.1.6 Where permitted by Condition 4.1.1, the incineration of residues of any batteries that have undergone both treatment and recycling is not prohibited provided that the treatment and recycling:

a) used best available techniques, in terms of protection of health and the environment, and

b) complied, at a minimum with European Union legislation as regards health and safety and waste management.

4.2 Permitted Quantities of Waste

4.2.1 The maximum quantity of waste stored at the Permitted Installation (including waste awaiting dispatch elsewhere) shall not exceed 5,025 tonnes. 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.

4.2.2 Subject to Conditions 2.9.8 and 2.9.9, the aggregate amount of the wastes specified in Condition 4.1.1 that may be incinerated in the Permitted Installation shall not exceed the following:

a) Fluidized Bed Plant - 150,000 tonnes in any calendar year, and shall not exceed an average of 10 Tonnes per hour (Te/Hr) in any 24 hour period.

b) Moving Grate EFW CHP Plant - 153,216 tonnes in any calendar year, and shall not exceed an average of 19.15 Tonnes per hour (Te/Hr) in any 24 hour period.

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

4.3 Waste Acceptance

4.3.1 The Permit Holder shall monitor and record all wastes and accompanying documentation entering the Permitted Installation to ensure that they are within the types/quantities permitted under the conditions of this permit.

4.3.2 Waste shall not be accepted onto the Permitted Installation unless, as a minimum, the information specified in Table 4.2 is recorded and, where practicable, the load visually inspected by a suitably trained member of staff and found to comply with the requirements of this Permit.

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

4.3.4 Accepted Wastes which are subsequently found not to conform to Permit conditions, or segregated portions of waste not permitted to undergo incineration, shall be immediately removed to the Quarantine Area required by Condition 4.5.5 pending their 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.

4.3.5 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.

4.4 Pre-treatment Conditions

4.4.1 Subject to Condition 2.9.9, the unloading and sorting of bulky municipal solid waste, as pre-treatment of waste for incineration, may commence and shall take place only within the tipping hall of the Fluidised Bed Plant.

4.5 Storage of Wastes

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

4.5.2 No waste shall be transferred to the waste storage area(s) until it has been determined there is sufficient storage capacity for the waste.

4.5.3 The unloading of vehicles delivering wastes for incineration without further treatment shall take place only within the tipping hall of the operational Incineration Plant.

4.5.4 All areas used to store waste, including residues from the incineration plant, shall be constructed in such a way that release of pollutants is prevented, and shall be covered to prevent the ingress of rainwater.

4.5.5 A designated facility/ compound ("the Quarantine Area") shall be provided for the storage of any wastes found on the Permitted Installation that are not authorised by this Permit.

4.5.6 All storage areas and associated infrastructure including: floors walkways, railings, doors, walls, ductwork etc. shall be subject to planned cleaning according to a Hygiene Plan, prepared, implemented and maintained at the Permitted Installation. The date and time of all such cleaning shall be recorded.

4.5.7 Degradable waste shall be managed within the waste storage area / bunker in such a way as to minimise the time in which any such waste is stored prior to Incineration.

Table 4.1: Permitted Waste Types

Required by Condition 4.1.1

EWC index number (6 figure code)	Description
02	**Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting & Fishing, Food Preparation & Processing**
02 01	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting & fishing**
02 01 02	Animal-tissue waste
02 01 03	Plant-tissue waste
02 01 04	Waste plastics (except packaging)
02 01 07	Wastes from forestry
02 01 09	Agrochemical waste other than those mentioned in 02 01 08
02 01 99	Wastes not otherwise specified
02 02	**Wastes from the preparation and processing of meat, fish & other foods of animal origin**
02 02 02	Animal-tissue waste
02 02 03	Materials unsuitable for consumption or processing
02 02 99	Wastes not otherwise specified
02 03	**Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation & processing; conserve production; yeast & yeast extract production, molasses preparation & fermentation**
02 03 04	Materials unsuitable for consumption or processing
02 03 99	Wastes not otherwise specified
02 05	**Wastes from the dairy products industry**
02 05 01	Materials unsuitable for consumption or processing
02 06	**Wastes from the baking and confectionery industry**
02 06 01	Materials unsuitable for consumption or processing
02 06 02	Wastes from preserving agents
02 07	**Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea & cocoa)**
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	Wastes from spirits distillation
02 07 04	Materials unsuitable for consumption or processing
03	**Wastes from Wood Processing and the Production of Panels and Furniture, Pulp, Paper and Cardboard**
03 01	**Wastes from Wood Processing and the Production of Panels and Furniture**

EWC index number (6 figure code)	Description
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those
03 01 99	Wastes not otherwise specified
03 03	**Wastes from Pulp, Paper and Cardboard production and processing**
03 03 01	waste bark and wood
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 10	Fibre rejects fibre-, filler- and coating-sludges from mechanical separation
03 03 99	Wastes not otherwise specified
04	**Wastes from the Leather, Fur and Textile Industries**
04 01	**Wastes from the Leather and Fur Industry**
04 01 08	Waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	Wastes from dressing and finishing
04 01 99	Wastes not otherwise specified
04 02	**Wastes from the Textile Industry**
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	organic matter from natural products (for example grease, wax)
04 02 21	Wastes from unprocessed textile fibres
04 02 22	Wastes from processed textile fibres
07	**Wastes from Organic Chemical Processes**
07 02	Wastes from the MFSU of plastics, synthetic rubber, and man-made fibres
07 02 13	Waste plastic
07 02 17	Wastes containing silicones other than those mentioned in 07 02 16
07 02 99	Wastes not otherwise specified
09	**Wastes from the Photographic Industry**
09 01	**Wastes from the Photographic Industry**
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
15	**Waste Packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified.**
15 01	**Packaging (including separately collected municipal packaging waste only where not capable of being recycled)**
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 03	Wooden packaging
15 01 04	Metallic packaging
15 01 05	Composite packaging
15 01 06	Mixed packaging
15 01 09	Textile packaging
15 02	**Absorbents, wiping cloths, filter materials and protective clothing**
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those
16	Wastes not otherwise specified in the list
16 01	End of Life Vehicles from different means of transport (including off road machinery) and wastes from dismantling end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)

EWC index number (6 figure code)	Description
16 01 19	Plastic
17	**Construction and Demolition Wastes (including excavated soil from**
17 02	**Wood Glass and Plastic**
17 02 01	Wood
17 02 03	Plastic
17 09	**Other Construction and Demolition Wastes**
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	**Wastes from Waste Management Facilities, off-site Waste Water Treatment Plants & Preparation of Water intended for Human Consumption / Industrial Use**
19 02	**Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	Premixed wastes composed only of non-hazardous wastes
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 02 99	Wastes not otherwise specified
19 05	**Wastes from aerobic treatment of solid wastes**
19 05 01	Non-composted fraction of municipal and similar wastes
19 05 02	Non-composted fraction of animal and vegetable waste
19 05 03	Off-specification compost
19 05 99	Wastes not otherwise specified
19 06	**wastes from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 06 99	Wastes not otherwise specified
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 01	screenings
19 08 12	Sludges from biological treatment of industrial waste water other than those
19 08 99	Wastes not otherwise specified
19 09	**wastes from the preparation of water intended for human consumption or**
19 09 04	Spent activated carbon
19 10	**wastes from shredding of metal-containing wastes**
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
19 12	**Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01	Paper and cardboard
19 12 04	Plastic and rubber
19 12 07	Wood other than that mentioned in 19 12 06
19 12 08	Textiles
19 12 09	Minerals (for example sand, stones)
19 12 10	Combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	**Municipal Wastes (Household and Similar Commercial, Industrial and Institutional Wastes) including separately collected fractions**
20 01	**Separately Collected Fractions (only where not capable of being recycled)**

EWC index number (6 figure code)			Description
20	01	01	Paper and cardboard
20	01	08	Biodegradable food waste
20	01	10	Clothes
20	01	11	Textiles
20	01	25	edible oil and fat
20	01	38	Wood other than that mentioned in 20 01 37
20	01	39	Plastics
20	01	99	Other fractions not otherwise specified
20 02			**Garden and Park Wastes (including cemetery wastes)**
20	02	01	Biodegradable waste
20	02	03	Other non-biodegradable waste
20 03			**Other Municipal Wastes**
20	03	01	Mixed municipal waste
20	03	02	Waste from markets
20	03	03	Street sweeping residues
20	03	04	Street cleaning residues
20	03	06	Waste from sewage cleaning
20	03	07	Bulky waste
20	03	99	Municipal wastes not otherwise specified

Table 4.2: Waste Delivery Record

Required by Condition 4.3.2

Information required to be kept for each delivery of waste for Incineration
The origin(s) of the waste for Incineration comprising the delivery, including the name(s) and address(es) of the waste generator(s)
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.

5 CONDITIONS APPLYING TO THE DESIGN, OPERATION AND MAINTENANCE OF THE INCINERATION PLANT

5.1 Process Design, Operation and Maintenance

5.1.1 The incineration plant shall be designed, operated and maintained 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 of slag and bottom ashes is less than 3% or their loss on ignition (LOI) is less than 5% of the dry weight of the slag or bottom ashes;

b) the temperature of the flue gases exiting the secondary combustion zone is maintained at not less than 850°C;

c) the gas residence time in the secondary combustion zone is not less than 2 seconds, after the last injection of combustion air, even under the most unfavourable operating conditions anticipated;

d) no waste shall be fed to the incineration plant unless the temperature in the secondary combustion zone has reached 850°C; and,

e) no waste shall be fed to the incineration plant unless the waste streams have been mixed to ensure a homogenous feed.

5.1.2 Each combustion chamber of the incineration plant shall be equipped with at least 1 auxiliary burners for start-up, shutdown and for maintaining combustion gas temperature.

5.1.3 During start up or shut-down or when the temperature of the combustion gas falls below the minimum temperature required by Condition 5.1.1 b) the auxiliary burners shall not be fed with fuels which can cause higher emissions than those resulting from the burning of low sulphur gas oil to BS 2869 part 2, liquefied gas or natural gas.

5.2 Monitoring and Recording Requirements

5.2.1 The Operator shall hourly record the rate at which the waste is fed into the incineration plant.

5.2.2 Whenever any waste is burnt in the incineration plant, the Operator shall continuously measure and record:

a) the concentration of oxygen in the flue gases exiting the secondary combustion zone at:

i) in the Fluidised Bed plant – the inlet from the economisers

ii) in the Moving Grate plant – the outlet from the economisers; and

b) the temperature of the flue gases exiting the secondary combustion zone at the top of the first boiler pass.

5.2.3 The measured value of each concentration or parameter required to be continuously monitored by Condition 5.2.2 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.

5.2.4 The electronic recording system required by Condition 5.2.3 shall incorporate an appropriate means of alerting the Operator of any potential non-compliance with Condition 5.1.1b) or any of the ELVs applying to continuously monitored emissions specified in Table 6.2.

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

5.3 Interlocks, Control Systems and Alarms

5.3.1 At least one of the auxiliary burners specified in Condition 5.1.2 shall automatically switch on to prevent the temperature of combustion gases, after the last injection of combustion air, exiting from the secondary combustion zone falling below the temperature specified in Condition 5.1.1 b) when waste is being burned.

5.3.2 An automatic system shall be provided, maintained and tested to prevent waste feed to the incineration plant under the following situations:

a) at start up, until the temperature specified in Condition 5.1.1 b) has been reached;

b) whenever the temperature specified in Condition 5.1.1 b) is no longer maintained; or

c) whenever the Continuous Emissions Monitoring Systems (CEMS) required by Condition 6.1.3 show that the corresponding emission limit value (ELV) is being exceeded due to a disturbance or failure of the abatement system.

5.3.3 Controls and interlocks shall be provided, maintained and tested to ensure that, as soon as practicable, no waste can be fed to the incineration plant if:

a) any fan supplying combustion air to the incineration plant fails, or is not operating at the appropriate rate;

b) the induced draught fan fails, or is not operating at the appropriate rate;

c) the oxygen concentration monitoring required by Condition 5.2.1 a) is not taking place;

d) the temperature monitoring required by Condition 5.2.1 b) is not taking place;

e) any of the continuous monitoring devices required by Condition 6.1.3 show that the corresponding emission limit value is being exceeded;

f) the continuous monitoring required by Condition 6.1.3 is not taking place;

g) there is a stoppage, disturbance or failure of an abatement device that may result in any emission limit value specified in this permit being exceeded;

h) there is a loss of electrical power to the incineration process, or to any of its safety systems; or

5.4 Abnormal Operation and Breakdowns

5.4.1 In the event of a Breakdown, the Operator shall reduce or close down operations, as soon as practicable until either

a) the operator has established that the breakdown has not caused a breach of a condition of this Permit; or

b) operation in compliance with the Permit can be restored.

5.4.2 Without prejudice to Condition 5.3.2(c), In the event of Abnormal Operation, the Operator shall, under no circumstances, continue to incinerate waste for an uninterrupted period of more than four hours nor shall any waste continue to be fed into the Primary combustion zone other than waste already present beyond the waste feed chute damper.

5.4.3 In the event of any periods of Abnormal Operation described under 5.4.2, the Operator shall record in writing and report to SEPA the information specified below:

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) Without prejudice to Condition 5.4.2, the Operator's justification of why the cause of the period of exceedance of the emission limit value was unavoidable;

d) 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

e) 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 incineration plant.

5.4.4 The cumulative duration of Abnormal Operation shall not exceed 60 hours in any one year. Where multiple incineration lines are linked by a single abatement plant the 60 hour period shall apply to all such incineration plant.

5.4.5 Any period of Abnormal Operation shall be viewed as an incident for the purposes of Conditions 2.5.1 to 2.5.6. The report required by Condition 2.5.6 in respect of any such occasion shall include the matters required to be recorded by Condition 5.4.3.

5.4.6 In the event of a Breakdown under Condition 5.4.1 or Abnormal Operation under condition 5.4.2:

a) no 30 minute average reported values recorded as required by Condition 6.3.5 in respect of particulate matter shall exceed 150 mg/m^3;

b) no 30 minute average reported values recorded as required by Condition 6.3.8 in respect of carbon monoxide shall exceed the 100 percentile ELV in Table 6.2;

c) no 30 minute average reported values recorded as required by Condition 6.3.5 in respect of total organic carbon shall exceed the 100 percentile ELV in Table 6.2.

6 CONDITIONS APPLYING TO EMISSIONS TO AIR FROM THE INCINERATION PLANT

6.1 Air Emission Conditions and Limits

6.1.1 The Emissions to air specified in Table 6.2, shall only be permitted from the emission locations specified in Table 6.1 and shall comply with the criteria in Conditions 6.1.6 to 6.1.11.

6.1.2 Any percentage limit specified in Table 6.2 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 6.2 shall be assessed as described in Conditions 6.3.1 to 6.3.9 and Conditions 6.4.1 to 6.4.5.

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 Table 6.2 and Table 6.3, at the sampling locations specified in Table 6.1, and subject to the requirements for monitoring specified in Table 6.2 and Table 6.3.

6.1.4 For any parameter specified in Table 6.2, other than smoke and 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 expressed as 11%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 6.3.1 to 6.3.8, shall exceed the daily average limit for that parameter in Table 6.2.

6.1.7 At least 97% of continuously monitored daily average concentration of carbon monoxide in gaseous releases over the Calendar year, calculated and recorded as required by Conditions 6.3.1 to 6.3.8, shall not exceed the daily average limit for that parameter in Table 6.2.

6.1.8 Subject to Condition 5.4.6, the reported values for the continuously monitored concentrations of those substances in Table 6.2 in gaseous releases, other than carbon monoxide, calculated and recorded as required by Conditions 6.3.1 to 6.3.8, shall comply with at least one of the criteria stipulated below:

a) Over the calendar year, no half hourly average reported values shall exceed the relevant concentration limit stipulated in Table 6.2; **or**

b) Over the calendar year, 97% of the half hourly average reported values shall not exceed the relevant concentration limit stipulated in Table 6.2.

6.1.9 Subject to Condition 5.4.6, the reported values for the continuously monitored concentration of carbon monoxide in gaseous releases, calculated and recorded

as required by Conditions 6.3.1 to 6.3.8, shall comply with at least one of the criteria stipulated below in any 24 hour period:

a) no half hourly average reported values shall exceed the relevant concentration limit stipulated in Table 6.2; **or**

b) 95% of the 10 minute average reported values shall not exceed the relevant concentration limit stipulated in Table 6.2.

6.1.10 All reported values for the concentration of those periodically monitored substances in gaseous releases listed in Table 6.2, calculated and recorded as required by Conditions 6.4, shall not exceed the relevant concentration limit stipulated in Table 6.2.

6.1.11 Emissions to air from emission points A1, A2 and A3, other than water vapour or steam, shall be colourless and free from persistent mist, fumes and droplets.

6.1.12 The Operator shall record and report the mass emission results as kg of pollutant per tonne waste incinerated and kg of pollutant per year for the parameters of the combined stack emissions specified in Table 6.2. The methods used shall make reference to the guidance provided in the SPRI section of www.sepa.org.uk and shall be agreed in writing with SEPA. 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 6.1.12 shall be recorded.

6.2 Monitoring Requirements and Standards

6.2.1 The device, or devices, employed for the continuous monitoring of any substance listed in Table 6.2 shall have a 95% confidence interval that, for a single measured result, does not exceed the relevant percentage of the emission limit value specified in Annex VI Part 6 Section 1.3 of IED or as otherwise agreed with SEPA

6.2.2 Continuous Emissions Monitoring (CEM) equipment shall be certified in accordance with BS EN 15267-3 and QAL1 of BS EN 14181.

6.2.3 All new CEM equipment shall have certification as required by Condition 6.2.2 and have a certified range which is not greater than 1.5 times the daily emission limit value (ELV).

6.2.4 In compliance with BS EN 14181, CEM equipment employed for monitoring of any substance listed in Table 6.2 shall:

a) be calibrated at least every 5 years by parallel measurements using the current Comité Européen de Normalisation (CEN) standard ("the QAL2 Test"); 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.

6.2.5 At least once per year, the Operator shall undertake an appropriate series of tests on all CEM equipment in compliance with the Annual Surveillance Test (AST) requirements of BS EN 14181.

6.2.6 The tests required by conditions 6.2.4 and 6.2.5 shall demonstrate the satisfactory operation of the CEM equipment and confirm that the relevant CEM equipment for each substance specified in Table 6.2 complies with the relevant confidence levels referred to in Condition 6.2.1.

6.2.7 The results of the QAL2 Test referred to in Condition 6.2.4 and the AST referred to in Condition 6.2.5 shall be recorded and reported, in writing, to SEPA.

6.2.8 The Operator shall, in compliance with QAL3 of BS EN 14181, have a documented procedure describing the regular checks and maintenance of the CEM equipment. The procedure shall describe the requirements for:

a) measuring zero and span values ("zero and span checks");

b) plotting these values by use of control charts; and

c) using the control charts to determine whether the CEM equipment has gone out with control chart tolerance limits as specified in BS EN 15267-3, and whether this is caused by a random or systematic error.

6.2.9 Data from the zero and span checks referred to in Condition 6.2.8 a) shall be maintained by the Operator. Should the control chart tolerance limits referred to in Condition 6.2.8 c) be exceeded, this shall trigger an alarm in a control room or other appropriate location as agreed with SEPA. If the control chart tolerance limit is exceeded the CEM shall be regarded as out of operation until the cause is investigated and rectified.

6.2.10 The Operator shall record all maintenance and calibration work carried out on any CEM equipment required by Conditions 6.2.4 to 6.2.9. If any calibration work identifies that there has been an under or over estimation of any emissions greater than the confidence level referred to in Condition 6.2.1 for that parameter listed in Table 6.2, or that there has been a failure of the QAL2 or AST, this fact shall be notified to SEPA by first class post, email or fax by the next working day after the identification.

6.2.11 Reporting of calibration work carried out on the CEM equipment shall be carried out in accordance with the requirements of the standards specified in BS EN ISO/IEC 17025 and CEN/TS 15675 unless otherwise agreed in writing with SEPA.

6.2.12 The technique employed for the periodic monitoring of any substance listed in Table 6.2 shall be:

d) the current CEN standard; or

e) where no CEN standard is available (and only in that circumstance): the default method for that substance as appropriate; or

f) alternative methods may be used provided the Operator can demonstrate equivalence to the relevant CEN standard by using CEN/TS 14793.

6.2.13 Monitoring personnel, equipment and organisations shall have a quality system accredited to both BS EN ISO/IEC 17025 and CEN/TS 15675, as appropriate and laboratory analysis shall be carried out by an organisation accredited to ISO/IEC 17025 unless otherwise agreed in writing with SEPA.

6.2.14 Within 3 months of Completion of Commissioning of the Moving Grate EFW CHP Plant at the Permitted Installation, continuous emissions monitoring data for Total dust, Nitrogen monoxide and nitrogen dioxide expressed as (NO_2), Sulphur dioxide (SO_2), Carbon monoxide (CO), Hydrogen chloride (HCl), total organic carbon (TOC), Nitrous oxide (N_2O) and Ammonia (NH_3), shall be made publically available on the Operators Weekly Chimney Emission Data webpage for the Permitted Installation.

6.3 Data Handling and Reporting - Continuous Emissions Monitoring

6.3.1 The measured value of each concentration or parameter required to be continuously monitored by Condition 6.1.3 shall be electronically recorded as required by Table 6.2 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.

6.3.2 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 6.3.3 and for air emissions, corrected on a real time basis as specified in Condition 6.3.4, in order to produce reported value data sets.

6.3.3 Each reported value data set shall:

a) exclude measured values recorded during any zero, span and calibration checks on the instrument which gave rise to the values;

b) exclude measured values recorded during the start up and shut down periods during which no waste was being incinerated; and

c) exclude measured values recorded during the failure of monitoring equipment or other equipment that could affect the accuracy of the measurement of the concentration of those substances.

6.3.4 Each measured value for concentrations of those continuously monitored substances listed in Table 6.2, other than oxygen and carbon monoxide, which is included within a reported value data set shall:

a) have the relevant confidence interval specified in Condition 6.2.1 subtracted on a real time basis, with a minimum value of zero after subtracting the confidence interval; and

b) 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.

6.3.5 Subject to Conditions 6.3.6 and 6.3.8, the reported value data sets for concentrations of those continuously monitored substances listed in Table 6.2, 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.

6.3.6 To obtain the daily average reported value data set for any substance as required in Condition 6.3.5, no more than five half-hourly average reported value data sets in any day shall be excluded, as required by Condition 6.3.3 a) and 6.3.3 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.

6.3.7 With reference to Conditions 6,3,5, 6.3.6 and 6.3.8 the circumstances under which a data set may still be valid due to a malfunction or maintenance of the continuous monitoring system, even though a part of the data set is invalid, are detailed in Table 6.4.

6.3.8 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.

6.3.9 The Operator shall submit a quarterly report containing, as a minimum, the following:

a) daily average reported value data sets measured and calculated in accordance with Conditions 6.3.1 to 6.3.8, as appropriate;

b) for emissions to air, maximum half-hourly or maximum 10 minute average reported value data sets calculated in accordance with Conditions 6.3.5 or 6.3.8 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 6.3.5 or 6.3.8 that exceed the emission limit value in column 3 of Table 6.2;

d) graphical representations of the data required by Conditions 6.3.9(a), (b) and (c);

e) any reported value data set that exceeds the relevant percentage compliance level for that substance;

f) the number of hours each incineration line was operated during each week covered by the report

g) the cumulative duration in hours of Abnormal Operation as required by Condition 5.4.4.

6.4 Data Handling and Reporting - Periodic Monitoring

6.4.1 Whenever periodic monitoring of any substance listed in Table 6.2 is being performed the Operator shall record or cause or require to be recorded:

a) the types of waste being fed to the primary combustion zone during the sampling period, and the average feed rate;

b) any abnormal or unusual operating conditions or breakdowns that occurred during the sampling period; and

c) details of any relevant continuous monitoring reported values for the period which coincides with the sampling period.

d) the mass of that substance collected during the said sampling period;

e) for air emission monitoring, the volume of gas extracted during the sampling period;

6.4.2 Dioxins & Furans and Dioxin-like PCB's shall be reported as multiplied by the Toxic Equivalence Factors as specified in Table 6.5.

6.4.3 Polycyclic Aromatic Hydrocarbons (PAHs) shall be reported as calculated using the molecular mass of the individual PAH specified in the footnote of Table 6.2.

6.4.4 The emission concentration values, standardised where appropriate to the reference condition specified in Condition 6.1.4, for those substances listed in Table 6.2 shall be calculated from the information detailed in Condition 6.4.1 d) and 6.4.1 e).

6.4.5 The Operator shall report to SEPA in writing the results of all periodic monitoring, in accordance with the requirements of BS EN ISO/IEC 17025 and CEN/TS 15675. Said report shall include the information specified in Condition 6.4.1.

6.5 Sampling and Monitoring Facilities

6.5.1 Provisions for sampling measurement and monitoring at the Permitted Installation shall meet the requirements of BS EN 15259.

6.5.2 Permanent means of access shall be provided at all times to enable monitoring to be carried out in relation to the emission points specified in Table 6.1 unless otherwise agreed in writing by SEPA.

Table 6.1: Emission Points Details

Required by Condition 6.1.1

Emission point ref. / location on site plan	A1	A2	A3	A4	A5	A6
Emission Source	Fluidised Bed Plant - No 1 Incineration line	Fluidised Bed Plant - No 2 Incineration line	Moving Grate EFW CHP - incineration line	Fluidised Bed Plant - Odour Abatement Unit	Moving Grate EFW CHP - Odour Abatement Unit	Emergency Diesel Generator
Stack Height (m)	**70**	**70**	**90**	**40**	**38.8**	**5.5**
Diameter Cross Sectional Area (m)	**1.15**	**1.15**	**1.58**	**1.74**	**1.2**	**0.5**
NGR	NO 44643 32997	NO 44643 32995	NO 44636 32880	NO 44545 33004	NO44601 32844	NO 44627 32839

Table 6.2: Emissions to Air ELVs

Required by Condition 6.1.1

Emission Point	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1, A2, A3	Particulate matter	10 mg/Nm^3	daily average	Continuous measurement	BS EN 14181 BS EN 15267-3
		30 mg/Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		10 mg/Nm^3	97% ½ hour	Continuous measurement	BS EN 14181 BS EN 15267-3
		30 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement – Quarterly for first year then bi-annual	BS EN 13284
A1, A2, A3	Gaseous and vaporous organic substances expressed as Total Organic Carbon (TOC)	10 mg/Nm^3	daily average	Continuous measurement	BS EN 14181 BS EN 15267-3
		20 mg/Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		10 mg/Nm^3	97% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		20 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	BS EN 12619
A1, A2, A3	Hydrogen chloride	10 mg/Nm^3	daily average	Continuous measurement	BS EN 14181 BS EN 15267-3
		60 mg/Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		10 mg/Nm^3	97% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		60 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	BS EN 1911

Emission Point	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1, A2, A3	Hydrogen Fluoride	4 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	BS ISO 15713
A1, A2, A3	Carbon monoxide	50 mg/ Nm^3	97% daily averages	Continuous measurement	BS EN 14181 BS EN 15267-3
		100 mg/ Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		150 mg/ Nm^3	95% 10 minute average	Continuous measurement	BS EN 14181 BS EN 15267-3
		100 mg/ Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	BS EN 15058
A1, A2, A3	Sulphur dioxide	50 mg/ Nm^3	daily average	Continuous measurement	BS EN 14181 BS EN 15267-3
		200 mg/ Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		50 mg/ Nm^3	97% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		200 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	BS EN 14791 / Alternative method based on BS EN 14791

Emission Point	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1, A2, A3	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	200 mg/Nm^3 (for new incineration plants or where > 6 Te/Hr nominal capacity)/ 400 mg/Nm^3 (for existing incinerator plants with a nominal capacity of less than or equal to 6 Te/Hr)	daily average	Continuous measurement	BS EN 14181 BS EN 15267-3
		400 mg/Nm^3 (for new incineration plants or where > 6 Te/Hr nominal capacity).	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		200 mg/Nm^3 (for new incineration plants or where > 6 Te/Hr nominal capacity).	97% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
		200 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	BS EN 14792
A1, A2, A3 Note 1	Cadmium & thallium and their compounds (total)	0.05 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year, then at least bi-annual.	BS EN 14385
	Mercury and its compounds	0.05 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.		BS EN 13211
	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.		BS EN 14385
A1, A2, A3	Ammonia (NH_3) [1]	10 mg/Nm^3	daily average	Continuous measurement	BS EN 14181 BS EN 15267-3
		10 mg/Nm^3	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	Based on BS EN 14791
A1, A2, A3	Nitrous oxide (N_2O) [2]	-	daily average	Continuous measurement	BS EN 14181 BS EN 15267-3
		-	Average value of three consecutive measurements of at least 30 minutes each.	Periodic Measurement - Quarterly for first year then bi-annual	BS EN ISO 21258

Emission Point	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1, A2, A3	Dioxins / furans (I-TEQ)	0.1 ng/Nm^3	Average value over single measurement of 6 to 8 hours	Periodic Measurement - Quarterly for first year then bi-annual for a period of minimum 6 hours to maximum 8 hours.	BS EN 1948 Parts 1, 2 and 3
	Dioxins / furans (WHO-TEQ Humans / Mammals)	-			
	Dioxins / furans (WHO-TEQ Fish)	-			
	Dioxins / furans (WHO-TEQ Birds)	-			
A1, A2, A3	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	-	Average value over single measurement of 6 to 8 hours	Periodic Measurement - Quarterly for first year then bi-annual	BS EN 1948-4
	Dioxin-like PCBs (WHO-TEQ Fish)				
	Dioxin-like PCBs (WHO-TEQ Birds)				
A1, A2, A3	Specific individual poly-cyclic aromatic hydrocarbons (PAHs) Note 2	-	Average value of three consecutive measurements of at least 30 mins each	Periodic Measurement Quarterly for first year then bi-annual	BS ISO 11338-1 and BS-ISO 11338-2.
A1, A2, A3	Smoke	Ringleman shade 1	During start up	As required	Visual assessment to BS 2742:1969 (as amended)
A4	Odour	6000 OU_E/m3			BS EN 13725
A5	Odour	3000 OU_E/m3		When incineration is shut down, at a frequency to be agreed with SEPA	BS EN 13725
A1, A2, A3 (See Condition 5.4.6)	Particulate matter	150 mg/Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
	TOC	20 mg/Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3
	Carbon monoxide	100 mg/Nm^3	100% ½ hour average	Continuous measurement	BS EN 14181 BS EN 15267-3

Notes:
1) Average values include the gaseous and vapour forms of the relevant heavy metal emissions as well as their compounds
2) PAHs to be reported shall be: anthranthrene, benzo(a)anthracene, benzo(a)pyrene, benzo(ghi)perylene, benzo(k)fluoranthene, benzo(b)naph(2,1-d)thiophene, Benzo(o)fluoranthene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Benzo(b)fluoranthene, benzo(c)phenanthrene, cholanthrene, chrysene, cyclopenta(c,d)pyrene, dibenzo(a,h)anthracene, dibenzo(ai)pyrene, fluoranthene, indeno(1,2,3-cd)pyrene and napthalene

Table 6.3:Process monitoring requirements

Required by Condition 6.1.3

Parameter	Location or description of point of measurement	Monitoring frequency	Monitoring standard or method	Other specifications
Exhaust gas temperature	A1, A2, A3	Continuous	Traceable to national standards	As agreed in writing with SEPA
Exhaust gas pressure	A1, A2, A3	Continuous	Traceable to national standards	As agreed in writing with SEPA
Exhaust gas oxygen content	A1, A2, A3	Continuous	BS EN 14181 BS EN 15267-3	BS EN 14789 or equivalent
Exhaust gas water vapour content	A1, A2, A3	Continuous	BS EN 14181 BS EN 15267-3	BS EN 14790 or equivalent, unless gas is dried before analysis of emissions.
Exhaust gas velocity (m/s) and volumetric flow (m^3/Hour)	A1, A2, A3	Periodic Measurement - Quarterly for first year then bi-annual	BS EN 16911-2	As agreed in writing with SEPA

Table 6.4: Exceptions to 6.3.6 due to malfunction or maintenance of CEMS

Required by conditions 6.3.6 & 6.3.7

Time Average Basis	Invalidation Threshold
Daily Average (24 hours) based on 30 minute averages	More than five invalid 30 minute averages where the 30 minute averages are based on less than 20 minutes of data for each calendar day period where the plant is operational for all 24 hours
	More than seven partially-invalid 30 minute averages (where the 30 minute averages are based on between 20 minutes and 30 minutes of data) for each calendar day period where the plant is operational for all 24 hours
	More than 25% of 30 minute averages (to the nearest integer) are invalid or partially invalid for each calendar day period where the plant is operational for less than 24 hours
30 Minute average	Invalid average = A 30 minute average based on less than 40 data points (or 20 minutes of relevant data captured at acquisition rates of less than once every 30 seconds)
	Partially invalid average = A 30 minute average based on between 40 data points and 60 data points (or between 20 minutes and 30 minutes of relevant data captured at acquisition rates of less than once every 30 seconds)
10 Minute average	Less than 14 data points (or less than 7 minutes of relevant data captured at acquisition rates of less than once every 30 seconds)

Table 6.5: Toxic Equivalence Factors for Dioxins, Furans and Dioxin-like PCBs

Required by Condition 6.4.2

TEF Schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
		Humans / Mammals	Fish	Birds
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0003	-	-
Furans				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.03	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.3	0.5	1
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8_HpCDF	0.01	0.01	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0003	0.0001	0.0001

TEF Schemes for dioxin like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / Mammals	Fish	Birds
Non-ortho PCBs			
3,4,4',5-TCB (81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0003	0.0001	0.05
3,3',4,4',5 - PeCB (126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.03	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

Notes:

Any reference 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 toxic equivalence factor for that dioxin, furan or PCB.

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.

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.

Dioxins & furans shall be calculated and reported using the International toxic equivalency factors (I-TEF) and World Health Organisation toxic equivalency factors (WHO-TEF); PCB's shall be calculated and reported using the World Health Organisation toxic equivalency factors (WHO-TEF).

7 CONDITIONS APPLYING TO EMISSIONS TO THE WATER ENVIRONMENT AND SOIL FROM THE INCINERATION PLANT

7.1 Water Emissions Conditions, and Limits

7.1.1 The emissions to water specified in Table 7.1 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.

7.1.2 Other than as specifically permitted or limited by any Condition of this Permit, none of the Permitted Activities shall have a significant adverse impact on, or cause pollution of the Water Environment.

7.2 Surface Water Control, Drainage and Surfacing

7.2.1 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 enter the Water Environment directly;

c) the Permitted Installation does not become subject to ponding or waterlogging;

d) contaminated rainwater, spillages or fire fighting water from containing and extinguishing fires within, can be contained prior to any discharge to the Water Environment or sewer. At least 1302m^3 of containment capacity shall be provided at the Fluidised Bed Plant process buildings and associated flue gas treatment area and at least 1778m^3 of containment capacity shall be provided at the Moving Grate EFW CHP Plant process building and associated flue gas treatment area.

7.2.2 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.

7.2.3 As part of the Surface Water, Drainage and Spillage Plan required by Condition 7.2.2, 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.

7.2.4 The Operator shall ensure that the equipment identified in compliance with Condition 7.2.3 is provided and maintained in good working order and is accessible at all times.

7.2.5 At least every 5 years, or after any changes to the system, the Operator shall review the Surface Water, Drainage and Spillage Plan required under Condition 7.2.2. Each review of the said plan and any changes shall be recorded.

7.2.6 Without prejudice to the requirements of Condition 2.2.2 the Operator shall maintain plans that identify the configuration, specification and the position of all drains, subsurface pipework, 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.

7.2.7 The Operator shall ensure that all surface water drainage systems (including oil interceptor systems) are operated and maintained so as to be fit for purpose.

7.2.8 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.

7.2.9 The bunded areas and containers shall meet equivalent technical standards to those set out in the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) or its subsequent replacement.

7.2.10 The Operator shall undertake and record annual inspections of all:

a) Drains, bunds and sumps;

b) Waste storage areas; and

c) Hardstanding and road surfaces, both internal and external

7.2.11 Any remedial actions identified during the inspections required by Condition 7.2.10 shall be undertaken and recorded.

7.3 Protection of Soil and Groundwater

7.3.1 Unless specified elsewhere in this permit there shall be no emission of any pollutants to groundwater or soil from the permitted installation.

7.3.2 The Operator shall maintain a record of any incident that has, or might have, impacted on the condition of any soil or groundwater under the permitted installation, 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.

7.3.3 Notwithstanding the requirements of Condition 2.2.2, the record required by Condition 7.3.2 shall be preserved until this permit is surrendered.

7.3.4 At least every 4 years, the operator shall carry out a systematic assessment of all measures used to prevent emissions from the permitted installation to soil and groundwater. A written report of each assessment shall be recorded and reported to SEPA. The report shall include details of and timescales for any additional measures that are required to prevent emissions to soil and groundwater

7.3.5 The Operator shall monitor the groundwater for the Relevant Hazardous Substances (RHS) specified in table 7.2, at the frequency specified in Table 7.2, the purpose of which shall be to identify groundwater contamination associated with the activities specified in Table 7.2 by those Relevant Hazardous Substances. Each Assessment shall be recorded and reported to SEPA within one month of completion. The assessment shall include interpretation of the results with reference to previous monitoring undertaken, (including the site and

where applicable (baseline reports) and operations at the Permitted Installation and details of corrective actions that are required to protect groundwater and remedy any contamination that has occurred as a result of permitted activities.

7.3.6 The operator shall monitor the soil at the site for the Relevant Hazardous Substances specified in table 7.3 at the frequency specified in Table 7.3, the purpose of which shall be to identify soil contamination associated with the activities specified in Table 7.3 by those Relevant Hazardous Substances. Each assessment shall be recorded and reported to SEPA within one month of completion. The assessment shall include interpretation of the results with reference to previous monitoring undertaken (including the site and where applicable baseline reports) and operations at the permitted installation and details of corrective actions that are required to protect soil and remedy any contamination that has occurred as a result of permitted activities.

7.3.7 The Operator shall submit a detailed soil and groundwater monitoring plan, for the monitoring required by conditions 7.3.5 and 7.3.6 to SEPA at least six months in advance of carrying out the monitoring, which shall include the locations at which monitoring shall be carried out and the frequency and methodology which shall be used.

7.3.8 The operator shall carry out the monitoring required by conditions 7.3.5 and 7.3.6 in accordance with the soil and groundwater monitoring plan required by condition 7.3.7.

7.3.9 The operator shall review the plan required by Condition 7.3.7 no later than 6 months after each monitoring event. The purpose of the review shall be to determine whether any changes to monitoring locations, frequency or parameters are required and where changes are proposed, submit a revised plan to SEPA.

7.3.10 Notwithstanding the requirements of Condition 2.2.2 all plans, monitoring and assessments reports undertaken in accordance with Conditions 7.3.4, 7.3.5, 7.3.6 and 7.3.8 shall be preserved until the permit is surrendered.

7.3.11 The operator shall maintain the groundwater monitoring wells detailed in the plan required in Condition 7.3.7 in a condition fit for purpose, unless otherwise agreed in writing with SEPA. Where a well's function is compromised it shall be repaired or replaced to allow sample collection in accordance with Conditions 7.3.5 and 7.3.6.

Table 7.1: Emissions to Water/Sewer ELVs

Required by Condition 7.1.1

Source of Emission	**Emission number point / Location on site plan**	**W1**	**W2**
	Emission source	Contaminated surface water from FGT area, excess Boiler drain down and Process Water from overflow from the Clean Water pit	Uncontaminated surface water
	Destination	Foul Sewer (operated by Scottish Water)	Dichty Burn via the Surface Water Sewer (operated by Scottish Water)
	NGR	NO 44507 32856	NO 44517 32816
Monitoring Details	**Sampling location**	Manhole FW 03 in North West corner of site	Access Chamber downstream of oil interceptor in SW corner of site
Limits for Parameters from Emission Source	Emissions	To comply with Scottish Water Trade Effluent Consent Registration Number 3341A/3 or its subsequent replacement	To comply with General Binding Rules 10 & 11 as specified within The Water Environment (Controlled Activities) (Scotland) Regulations) 2011(as amended)

Table 7.2: Groundwater Monitoring Requirements

Required by Condition 7.3.5

Relevant hazardous substance	Location and activity	Frequency
Ammonia pH Carbohydrazide Hydrazine Total Petroleum Hydrocarbons (TPH) to include Aliphatic and aromatic carbon bands BTEX (Benzene, Toluene, Ethylbenzene, Xylenes) Benzo(a)pyrene Napthalene Trichlorobenzenes (including 1,2,3; 1,2,4 and 1,3,5 isomers) Heavy Metals (Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel and Zinc)	As specified in methodology required by 7.3.7	4 Yearly

Table 7.3: Soil Monitoring Requirements

Required by Condition 7.3.6

Relevant hazardous substance	Location and activity	Frequency
Ammonia pH Carbohydrazide Hydrazine Total Petroleum Hydrocarbons (TPH) to include Aliphatic and aromatic carbon bands BTEX (Benzene, Toluene, Ethylbenzene, Xylenes) Benzo(a)pyrene Napthalene Trichlorobenzenes (including 1,2,3; 1,2,4 and 1,3,5 isomers) Heavy Metals (Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel and Zinc)	As specified in methodology required by 7.3.7	10 yearly

8 CONDITIONS APPLYING TO SOLID RESIDUES FROM THE INCINERATION PLANT

8.1 Management of Solid Residues Generated on the Permitted Installation

8.1.1 The Operator shall prepare, implement, maintain and report a plan ("the Residue Management Plan") following a systematic assessment and review of the management of all residues generated by the Permitted Activities.

8.1.2 The Residue Management Plan shall be reviewed at least every 2 years. Each review shall be recorded and reported to SEPA.

8.1.3 The Residue Management Plan shall be written in accordance with BS EN 14899. See latest version of Environment Agency Technical Guidance (Monitoring) Note M4 Guidelines for Ash Sampling and Analysis for further guidance.

8.1.4 The Residue Management Plan required by Condition 8.1.1 shall define, for each solid residue, the following information:

a) the residue source, type and storage location, and quantities involved;

b) how the residue from the plant is prevented or reduced to a minimum, in amount and harmfulness;

c) where residues are produced how they are, in order of priority, prepared for re-use, recycled, recovered or, where that is technically and economically impossible, disposed of while avoiding or reducing any impact on the environment;

d) how the method and frequency of sampling and analysis is consistent with recognised European standards;

e) the physical and chemical characteristics (including total soluble fraction and heavy metals soluble fraction), hazard category and polluting potential;

f) how each residue from differing sources is kept separate from other residues to provide compliance with Condition 8.1.8;

g) how each residue which is a dust, or has the potential to become a dust, shall be stored and handled in a manner designed to prevent dispersal into the environment.

h) as a minimum, the characterisation required by Condition 8.1.4 e) shall comprise:

i. the assessment of the concentration of the substances listed in Table 8.1 according to the requirements identified in Table 8.1; and

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

8.1.5 Compliance with Condition 5.1.1 a) shall be assessed by performing tests to ascertain the Total Organic Carbon (TOC) or loss on ignition (LOI) of composite samples of dry slag or bottom ashes at a frequency of once every week during the first 3 months of operation, and at a frequency of not less than once every 3 months thereafter. The results of the tests shall be recorded and reported to SEPA

8.1.6 Compliance with Condition 8.1.4 b) shall be assessed by performing tests to ascertain the chemical composition of composite samples of the residues from the fabric filter at a frequency of not less than once every week during the first 3 months of operation and at a frequency of not less than once every 3 months thereafter. The results of the tests shall be recorded and reported to SEPA.

8.1.7 The Operator shall also maintain a record of the dates, tonnages and destination of each consignment of residue removed from the Permitted Installation. The said record shall be updated weekly.

8.1.8 Bottom ash and air pollution control (APC) residues shall not be mixed.

Table 8.1: Residue Assessment

Required by Condition 8.1.4

Substance	Residue stream	Monitoring frequency	Reporting requirements	Analytical method
Mercury Cadmium Dioxins, dibenzofurans, dioxin-like polychlorinated biphenyls and poly-cyclic aromatic hydrocarbons	All residues	For APC residues: Once per month for the first 3 months of operation, then once per quarter. For IBA residues: Commissioning Incineration plant: Follow ESA Protocol for accelerated start up, **or** once per month for the first 6 month, then once per quarter. All Prior to new disposal, recovery or re-use route	For APC residues Quarterly submission of results, plus annual full WM3 assessment of hazardous properties, HP1-15. For IBA residues Quarterly submission of results, plus quarterly WM3 assessment of core hazard properties (HP 4/7/8/14); plus annual full WM3 assessment with HP1-15 All Prior to new disposal, recovery or re-use route	BS EN 14899/ latest version of EA Monitoring Technical guidance document M4 Guidance for ash sampling and analysis; or as otherwise agreed in writing with SEPA.
All other soluble heavy metals	All residues			
Loss on ignition (LOI) Or Total organic carbon (TOC)	Bottom and boiler ash / slag	At least weekly for the first three months of operation; then Quarterly.	Quarterly, except where above TOC/LOI limit threshold. Where above threshold – report as per Condition 2.5.2 incident.	
Free lime	Filter ash from gas treatment system	Quarterly	Quarterly	
Moisture	Filter ash from gas treatment system	Quarterly	Quarterly	

EXPLANATORY NOTES

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

1. BAT

It should be noted that Regulation 22 of the Regulations specifies that it is a condition of a permit that the operator must use the best available techniques (BAT) for preventing or, where that is not practicable, reducing emissions from the installation. This is referred to as the 'general' BAT condition.

This does not apply to the extent that any other condition of the permit, or a standard rule which has effect as a standard rules condition, has the same effect.

Examples of aspects of the operation that have not been regulated by specific Conditions are general maintenance requirements.

BAT is defined in Regulation 4 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 the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, 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 an installation is designed, built, maintained, operated and decommissioned.

"BAT conclusions" means a document containing the parts of a BAT reference document laying down the conclusions on best available techniques, their description, information to assess their applicability, the emission levels associated with the best available techniques, associated monitoring, associated consumption levels and, where appropriate, relevant site remediation measures.

"emerging technique" means a novel technique for an industrial activity that, if commercially developed, could, when compared to existing best available techniques provide a higher level of protection of the environment, or at least the same level of protection of the environment and higher cost savings.

"emission levels associated with best available techniques" means the range of emission levels obtained under normal operating conditions using a best available technique, or combination of best available techniques, as described

in BAT conclusions, expressed as an average over a given period of time, under specified reference conditions.

Schedule 3 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 sector 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 58 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 current Pollution Prevention and Control (Scotland) Charging Scheme 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: -

Type of communication	Address	Telephone	Email
Initial notification of Pollution incident	N/A	0800 80 70 60 24 hour pollution hotline	N/A
Application for New Permit/ Variation/ Transfer or Surrender	Scottish Environment Protection Agency, Inverdee House, Baxter Street, Torry, Aberdeen, AB11 9QA	01224 266600	registryaberdeen@sepa.org.uk
For all other communications including change notifications, data returns, incident reports and general enquiries	Scottish Environment Protection Agency, Broxden Business Park, Lamberkine Drive, Perth, PH1 1RX	01738 627989	sepeu@sepa.org.uk or as agreed in writing with SEPA

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 45 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 45 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 45 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 46 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, or an Incident or accident significantly affecting the environment has occurred as a result of the operation of the Installation it may serve an Enforcement Notice. Further details on Enforcement Notices are provided in Regulation 55 of the Regulations.

If SEPA is of the opinion that the operation of an installation poses an immediate danger to human health, threatens to create an immediate significant adverse effect upon the environment or 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 56 of the Regulations.

It is an offence to operate an installation 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 67 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. BREACH OF A PERMIT CONDITION

Regulation 52 of the Regulations specifies that the Operator of an Installation must immediately give notice to SEPA of any breach of a condition of the permit. It is an offence to fail, without reasonable excuse to comply with Regulation 52.

Any statement made by an operator to SEPA for the purposes of complying with regulation 52 may only be used in a prosecution for an offence where in giving evidence the operator makes a statement inconsistent with the initial notification.

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

10. 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.

11. 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.

12. COMMERCIAL CONFIDENTIALITY

Regulation 64 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 66(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 66(2).