Operating Techniques and Best Available Techniques (BAT) Statement Appendix 10

	Describe how the plant is designed, equipped and will be operated to ensure that the requirements of Council Directive 2000/76/EC on the incineration of waste are met, taking into account the categories of waste to be incinerated	
1	Does the installation contain more than one incineration line? Identify with a brief reference (e.g. L1, L2 etc) and provide a brief description (e.g. fixed hearth, chain grate) of each line.	Biffa propose to develop land at Newhurst Quarry, Shepshed, Leicestershire as an Energy Recovery Facility. The facility will accept up to 350,000 tonnes per annum of non hazardous municipal and commercial and industrial waste. The plant will have either one or two incineration lines. The development will be designed as a Combined Heat and Power (CHP) plant with ancillary offices and will herein after be referred to as an Energy Recovery Facility (ERF). See BATOT Section 1.6 for a detailed process description.
2	State the maximum design capacity (in tonnes/hour) for waste incineration for each line, and the maximum total incineration capacity (in tonnes/hour) of the plant.	The facility will comprise two furnace streams fed from a single waste storage bunker. Whether the facility has one or two incineration lines, the plant will be designed to combust 43.33 tonnes per hour (tph) as identified by the firing diagram included as Frigure 4 of the BATOT document. This variation application is submitted for a plant assumed to be receiving rMSW with a net calorific value (CV) of 10.5MJ/kg. The total plant capacity is 43.33 tph of waste, which equates to 350,000tpa throughput. Steam produced will be used to typically generate approximately 43MW, with 38MW available for export to the National Grid.

3	Are any of the wastes you treat hazardous waste for WID purposes? (For the purposes of WID, Hazardous Waste means any solid or liquid waste as defined in Article 1(4) of Council Directive 91/689/EEC of 12 December 1991 on Hazardous Waste, with the exception of: • Combustible liquid wastes including waste oils as defined in Article 1 of Council Directive 75/439/EEC of 16th June 1975 on the disposal of waste oils provided that they meet the following criteria: o the mass content of polychlorinated aromatic hydrocarbons (e.g. PCB, PCP) amounts to concentrations not higher than those set out in relevant Community legislation o the wastes are not rendered hazardous by virtue of containing other constituents listed in Annex II to Directive 91/689/EEC in quantities or in concentrations which are inconsistent with the achievement of the objectives set out in Article 4 of Directive 75/442/EEC, and o the net calorific value amounts to at least 30MJ per kilogram. • Any combustible liquid wastes which cannot cause, in the flue gas directly resulting from their combustion, emissions other than those from gasoil as defined in Article 1(1) of Directive 93/12/EEC or a higher concentration of emissions than those resulting from the combustion of gasoil as so defined.)	The facility will accept only non-hazardous wastes for incineration.
4	For each line, provide the following information: a. Is the operating temperature of the plant, after the last injection of combustion air, 1100°C for hazardous waste with greater than 1% halogenated hydrocarbons expressed as chlorine, or 850°C for all other wastes?	The operating temperature of the plant after the last injection of air will be a minimum 850^{o}C for one or two lines, as it is not proposed to accept any hazardous wastes for incineration.

	b. If the operating temperature is below 1100°C for incineration of hazardous waste with greater than 1% halogenated hydrocarbons expressed as chlorine, or below 850°C for all other wastes, you must request a derogation under WID Article 6(4) with a justification that the operation will not lead to the production of more residues or residues with a higher content of organic pollutants than could be expected if operation was according to WID conditions.	Not applicable
	c. State the residence time of gas at the operating temperature given above. Is it less than 2 seconds?	Gas residence time at 850^{o}C will be a minimum of two seconds.
	d. Where the residence time is less than 2 seconds, you must request a derogation under WID Article 6(4) with a justification that the operation will not lead to the production of more residues or residues with a higher content of organic pollutants than could be expected if operation was according to WID conditions.	Not applicable
	e. Describe the technique that will be used to verify the gas residence time and the minimum operating temperature given, both under normal operation and under the most unfavourable operating conditions anticipated, in accordance with WID Article 6 (4).	The plant will be designed to provide a minimum exhaust gas residence time after the last injection of combustion air of at least two seconds at a temperature of at least 850°C. This criterion will be demonstrated using Computational Fluid Dynamic (CFD) modelling during the design stage. Gas temperatures measured at various points within the boiler during commissioning will be used to confirm the minimum two seconds gas residence time at minimum 850°C requirement. It will also be demonstrated during commissioning that the Plant can achieve complete combustion by measuring concentrations of carbon monoxide, volatile organic compounds and dioxins in the flue gases and LOI of the bottom ash. During the operational phase, the temperature at the two seconds residence time point will be monitored to ensure that it remains above 850^{o}C. The location of the temperature probes will be selected using the results of the CFD model.
	f. Describe where the temperature in the combustion chamber will be measured with a demonstration that it is representative in accordance with WID Article 6(1).	Location of the temperature probes will be selected using the results of the CFD model. Temperatures will be measured at the top of the first boiler pass and a temperature gradient set, based on measurements made at different levels during commissioning.
5	For each line, describe the automatic system to prevent waste feed under the following circumstances:	
	a. during start-up;	Heating of the secondary combustion chamber (SCC) with the auxiliary burner takes place until the temperature in the SCC reaches 850°C (see diagram in 29 below). Once the temperature is

		reached an interlock allows opening of the gate in the feeding chute and waste is allowed to enter the combustion grate where it will start to burn.
	b. when continuous emission monitors show that an emission limit value (ELV) is exceeded due to disturbances or failures of the abatement equipment; c. whenever the combustion chamber temperature has fallen below a set value.	In the event of an ELV being exceeded a signal is sent to the waste feeder to cease operation. Lock-out of waste feeding will remain until the condition is rectified.
	You must show that you comply with WID Article 6 (3) and 6 (4).	In the event the minimum temperature in the SCC is approached the auxiliary burners will start operation. The process control software operates on a cascade of defined set points. For example excursion outside a level 1 set point range will initiate a fixed corrective action, while excursion outside a level 2 set point could initiate an alarm requiring operator intervention etc. to implement appropriate remedial action. The waste feed will be slowed or stopped depending on the output of information provided to the process control system.
6	State the temperature set point at which waste feed is prevented. It must be at least the temperature specified in WID (1100°C for hazardous waste with greater than 1% halogenated hydrocarbons expressed as chlorine, or 850°C for all other wastes) or an alternative temperature as allowed by WID Article 6(4) in which case the applicant should demonstrate how WID Article 6(4)'s requirements are met.	Waste will not be introduced into the primary chamber until the secondary combustion chamber (SCC) is at a minimum 850^{o}C. If during operations the temperature in the SCC falls below 850^{o}C, feeding of waste will cease until such time the SCC minimum temperature is regained.
7	Does the plant use oxygen enrichment in the incineration combustion gas? If it does, specify the oxygen concentration in the primary air and secondary air (% oxygen). This is required to enable us to specify standards for measurement as required in Article 11 (8).	No
8	Does each line of the plant have at least one auxiliary burner controlled to switch on automatically whenever the furnace temperature drops below a set value in accordance with the requirements of WID Article 6 (1)? If the set value is not at least the temperature specified in WID (1100°C for hazardous waste with greater than 1%	Yes – each line (whether one or two) of the plant will have at least one auxiliary burner The auxiliary burner serves a number of different roles, acting as start-up burner, burner for back-up firing and as a shutdown burner: • at start-up it heats the combustion chamber to the specified minimum temperature before waste charging begins;

	halogenated hydrocarbons expressed as chlorine, or 850°C for all other wastes), justify how operating at this lower temperature will not lead to the production or more residues or residues with a higher organic pollutant content as required by WID Article 6 (4)?	• backup firing is initiated if the temperature of the flue gases drops below the specified minimum temperature during waste-burning operation; • when the system is shut down, the burner maintains the minimum temperature in the combustion chamber until all waste on the grate has been incinerated.
9	Which fuel type is used during start-up/shut-down? If it is not natural gas, LPG or light fuel oil/gasoil, provide evidence that it will not give rise to higher emissions than burning one of those fuels, as specified by WID Article 6 (1)	A low-sulphur gas oil is the fuel proposed for use in the auxiliary burners.
10	Are pre-treatment methods required to ensure that the quality standard for Total Organic Carbon (TOC) content or Loss on Ignition (LOI) of the bottom ash or slag is achieved? If they are, describe them. (WID Article 6 (1))	No mechanical pre-treatment of the waste will be required. Preparation of waste fed to the grate is limited to efficient mixing of different waste loads to ensure an homogenous feed as possible is fed to the combustion grate. Once a consistent feed is provided the CCS will adjust primary/secondary air flows as called for by the change in thermal loading.
11	If any line of the plant uses fluidised bed technology, do you wish to request a derogation of the CO WID ELV to a maximum of 100 mg/m3 as an hourly average, as provided for in WID Annex V (e)? If you do, you must provide a justification.	N/A. Fluidised bed technology is not proposed for this facility.
12	For each type of waste to be burned, provide the following information: a. Waste reference (e.g. WT1, WT2 etc) b. Waste description (e.g. chemical/physical description, trade name and firing locations) c. EWC classification number d. Maximum and minimum annual disposal in tonnes e. State whether it is hazardous waste for the purposes of WID and if it is, provide the following information: i. the hazardous waste category (H1 – 14); ii. the names and maximum concentrations in grams/tonne of the specified substances that cause it to be hazardous. This should include at least PCB, PCP, chlorine, fluorine, sulphur and heavy metals if these	The waste list can be found within BATOT Appendix 6. It is proposed Newhurst ERF will treat 350,000tpa of mixed rMSW and commercial and industrial wastes. N/A It is not proposed to accept hazardous waste for incineration.

are present;

iii. whether it is waste oil, as defined in Article 1 of Council Directive 75/439/EEC (WID Article 3 (2));

iv. The waste composition, expressed as tabulated below

Substance	% by weight of the waste (dry basis)
Carbon	
Hydrogen	
Nitrogen	
Sulphur	
Oxygen	
Balance	

v. Is the balance of the waste composition more than 10%? If it is, give details of the waste components and quantities likely to be present in the balance.

vi. Provide calorific value (CV) and feed rate details for the waste (WID Article 4)

Minimum CV (MJ/kg)		Maximum CV (MJ/kg)		Design feed rate (kg/hr)	
Net	Gross	Net	Gross	Min.	Max.
7.5		12.5		12.5	20.8

	Hazardous Waste Incineration	
13	Is any fraction of the hazardous waste generated by the installation of which the incinerator is a part? For hazardous wastes which fall into this category, you may request a derogation from the requirement to comply with the requirements in sections 14) - 16) below by virtue of Article 5(5) of the Directive.	N/A It is not proposed to accept hazardous waste for incineration.
14	Describe how you ensure that information about the mass of waste (as categorised by the European Waste Catalogue (EWC)) to be delivered, is available before it is received? (WID Article 5 (2))	N/A It is not proposed to accept hazardous waste for incineration.
15	How do you ensure that the requirements of WID Article 5(3) as listed below are satisfied before the hazardous waste streams identified are delivered? • hazardous waste consignment notes have been provided • the physical and chemical characterisation of the waste show that the waste is suitable for treatment at the plant • the hazardous characteristics of the waste are sufficiently known to enable safe handling and safe blending/mixing where appropriate.	N/A It is not proposed to accept hazardous waste for incineration.
16	Do you take representative samples from the hazardous waste streams? If not, provide justification or alternatives (e.g. for clinical waste safety hazards may limit access to the waste stream however the waste acceptance/pre-acceptance procedures from EPR SGN S5.07 on Clinical Waste Management provide robust alternatives). (WID Article 5(4) (b))	N/A It is not proposed to accept hazardous waste for incineration.
17	What is the retention period of samples after incineration of the batch has been completed? Minimum is 1 month. (WID Article 5(4) (b))	N/A It is not proposed to accept hazardous waste for incineration.
18	Do you incinerate H9 (as defined in Annex III of the Hazardous Waste Directive) infectious clinical waste?	N/A It is not proposed to accept hazardous waste for incineration.
19	If you incinerate H9 infectious clinical waste, will the material go straight from storage into the furnace without being mixed with	N/A

	other categories of waste and without direct handling during loading of the furnace as required by WID (Article 6 (7))?	It is not proposed to accept hazardous waste for incineration.
	Emissions to surface water and sewer	
20	If the technique by which you clean the exhaust gas from the incinerator generates waste water, you must give details of the waste water treatment process and demonstrate that you comply with the requirements of WID Annex IV and Articles 8(4) and 8(5). In particular, if you mix waste waters from your exhaust gas treatment with other waste waters prior to treatment, monitoring or discharge, you must demonstrate how you apply the mass balance requirements referred to in Articles 8(4) and 8(5) to ensure that you derive a valid measurement of the emission in the waste water.	A dry air pollution control system based on either quick or hydrated lime or sodium bicarbonate is proposed that does not produce an effluent. The plant is a net user of water and only when the plant is down for its annual maintenance should there be a need to discharge effluent to sewer or tanker it away. It would also be possible to change to a semi-dry system in the future, a process that also doesn't produce any effluent.
21	Describe your storage arrangements for contaminated rainwater run-off, water contaminated through spillages and water arising from fire-fighting operations. Demonstrate that the storage capacity is adequate to ensure that such waters can be tested and, if necessary, treated before discharge. (WID Article 8 (7)).	• surface water management would seek to control the drainage from the development using sustainable drainage techniques (SuDS); • where possible rainfall runoff will be harvested for use in on-site processes; • excess runoff from roof areas will be discharged with attenuation off site; • surface waters will be discharged to the Shortcliff Brook; • runoff from areas of external kerbed hardstanding will be be passed through a hydrocarbon and silt interceptor prior to harvesting with any surplus runoff being discharged off site via the Shortcliff Brook with attenuation; • drainage from all waste handling areas would be positively drained to a holding pit and used to provide process water for the ash quench pit • water for fire fighting would be taken from the storage pit behind the bunker and be discharged either via the foul drainage system or diverted to the SuDS pond; • an emergency shut-off valve would be provided to the SuDS pond so that, in the event of a fire at site fire fighting water can be contained in the SuDS pond; and • any drainage from the waste bunker would be separately collected for treatment and/or disposal off site. See BATOT Section 4.4 for further details of point source emissions to surface water. A Permit condition will regulate the discharge of surface water from the site. It is anticipated that the permit condition will impose limits on suspended solids, oil and grease. A surface water monitoring point will be in place within the Permit boundary. There will be no routine process water discharge from the installation under normal operating conditions. There will however be a discontinuous discharge of process water

		from annual routine maintenance of the plant – boiler for example. The exact nature of the discharge will be determined following commissioning and a Trade Effluent Discharge Consent will be sought with the relevant sewage undertaker. Until such a time when consent is in place any process water for discharge will be removed from the site via tanker to a suitably licensed facility. The plant is a net user of water and only when the plant is down for annual maintenance should there be a need to discharge effluent to sewer or tanker it away.
22	For each emission point, give benchmark data for the main chemical constituents of the emissions under both normal operating conditions and the effect of possible emergency conditions. In this section we require further information on how you monitor the pollutants in these emissions. You must provide information for flow rate, pH, and temperature. Article 8 of WID requires that wastewater from the cleaning of exhaust gases from incineration plant shall meet the ELVs for the metals and dioxins and furans referred to in Annex IV of WID. Where the waste water from the cleaning of exhaust gases in mixed with other waters either on or offsite the ELVs in Annex IV must be applied to the waste water from the cleaning of exhaust gases proportion of the total flow by carrying out a mass balance. Monitoring for other pollutants is dependant on the process and the pollutants you have identified in response to the question.	A Permit condition will regulate the discharge of surface water from the site. It is anticipated that the permit condition will impose limits on suspended solids, oil and grease. A surface water monitoring point will be in place within the Permit boundary. It is anticipated that the relevant consent will require that discharge of surface is water is free of visual oil and grease. The exact nature of the discharge of process water will be determined following commissioning and a Trade Effluent Discharge Consent will be sought with the relevant sewage undertaker. Until such a time when consent is in place any process water for discharge will be removed from the site via tanker to a suitably licensed facility. It will first be characterised in line with Biffa's EMS procedures.
23	For each parameter you must define: • emission point • monitoring frequency • monitoring method • whether the equipment/sampling/lab is MCERTS certified • measurement uncertainty of the proposed methods and the resultant overall uncertainty • procedures in place to monitor drift correction • calibration intervals and methods • accreditation held by samplers or details of the people used and their training/competencies	All monitoring equipment will be to MCERTS standard.
24	Describe any different monitoring that you will carry out during commissioning of new plant.	Process water generated during commissioning will discharged either to sewer or tankered off site to a suitably licensed facility.
25	Describe any different arrangements during start-up and shut-down.	None

26	Provide any additional information on monitoring and reporting of emissions to water or sewer.	To surface water and sewer - none anticipated.
	Waste recovery/disposal	
27	How do you deal with the residue from the incineration plant? Explain how you minimise, recover, recycle and dispose of it.	IBA will be processed on a "campaign" basis, using mobile plant as stock accumulates, to produce a secondary aggregate for the construction industry. Processing involves mechanical treatment and maturation to produce stabilised aggregate of several different product grades. Mechanical treatment is carried out under cover using mobile plant. Magnetic over-belt and eddy current separators remove ferrous and non-ferrous metals respectively. Metals will be collected separately and sent off-site for recycling. Ash is sorted into several different size fractions by mechanical Trommel screens. A small proportion of ash will be oversize and removed from site for disposal in a non-hazardous landfill. Remaining fractions are transferred to the stockpile area for maturation. Equipment used for mechanical treatment will be powered from the ERF plant electricity supply, with an expected parasitic load of $0.15MW_e$. Maturation involves exposure to air and water, achieved by stockpiling the classified material under cover. Carbon dioxide in air reduces both ash pH through carbonation reactions and metal solubility. Water is used to remove soluble metal salts, chlorides and sulphates. The maturation process lasts for several weeks and will take place in the external walled storage area. Maturation is required to stabilise ash to ensure leaching properties are acceptable for use as an aggregate. Run off from the ash piles will be contained within the walled storage area and directed to a drainage system. This water will drain into a wash water storage tank that provides settlement/storage, before re-use on the ash piles. The water will be sprayed onto the ash to maintain correct conditions for maturation and prevent fugitive dust emission. Once processed, aggregate is stockpiled in covered maturation areas awaiting sale. Boiler and fly ashes will be collected and combined with the APC residue. The combined residues are classified as hazardous waste (on the basis of irritancy (H4) and ecotoxicity (H14)) and will be transported off-site for disposal at a suitably permitted landfill facility. Refer also to the updated Residue Management Plan submitted with this application, reference 413.00034.00562/RMP
	Continuous emission monitor performance	
28	How do you intend to manage the continuous measurement system to satisfy WID Article 11 (11)? WID Article 11 allows a valid daily average to be obtained only if no more than:	WID requirements for process operation will be written into the operational process control software for the DCS. This ensures the plant operates in accordance with the requirements specified under WID and will provide a detailed record of how calibration, maintenance and

	• 5 half-hourly averages, and • 10 daily averages per calendar year during the day are discarded due to malfunction or maintenance of the continuous measurement system. Give details of how calibration, maintenance and failure of the continuous measurement system will be managed in order to satisfy these limitations. If necessary distinguish between different incineration lines.	failure of the continuous measurement system is managed. A stand by CEMs system is included in case the on-line unit should fail.
29	Give details of how you define when start-up ends and shut-down begins. Describe any different arrangements for monitoring during start up or shut down. Note that the emission limit values specified for compliance with WID do not apply during start-up or shut-down when no waste is being burned. Explain how you will integrate these periods into the emissions monitoring system in such a way that the reportable averages are calculated between these times, but the raw monitoring data remains available for inspection. (WID Article 11(11)). If necessary distinguish between different incineration lines.	Start up commences once the Secondary Combustion Chamber (SCC) has reached 850^{0}C. After feeding of waste is stopped the temperature of SCC is kept above 860°C using the auxiliary burners. When the grate is empty the temperature in the SCC is decreased in a controlled manner. Once waste is fed to the primary combustion chamber the CEMS system will commence recording flue gas emissions. During shutdown when no waste remains on the grate emissions monitoring will cease. The CEMS software package will automatically integrate start-up/shut-down periods within the emissions monitoring regime.
30	Describe each type of unavoidable stoppage, disturbance or failure of the abatement plant or continuous emission monitoring system during which plant operation will continue. State the maximum time anticipated before shut-down is initiated for each of these types of unavoidable stoppage.	The plant will not continue to operate normally in the event of an APC or CEMs failure. At all times performance of the plant will be based on keeping within the permit emission limits. The back up CEMs can be initiated immediately in the event of one CEMS module/system failing. If this unit also failed an automatic shutdown would be initiated. If a filter bag in the APC system failed an increase in dust levels would be detected. Manual isolation of the bag would be implemented and the faulty bag replaced. At all times the permit dust limit would be observed. If major bag failures occurred and the plant could not operate within the permit conditions, a plant shut down would be initiated. In the event of a temporary system failure rectification would continue until such time the emission limit was approached, in which case a full plant shut down would be initiated, as the plant would not be able to continue to operate 'normally' in the event of such a major system failure.
31	Will the values of the 95% confidence intervals of a single measured value of the daily emission limit value, exceed the percentages of the emission limit values required by WID Article 11(11) and Annex III. point 3, as tabulated below? (We will	No. Confirmation will be achieved by using MCERTS certified instruments.

accept that MCERTS certified instruments satisfy these quality requirements)

Substance	Percentage of the emission limit value required by WID
Carbon monoxide	10%
Sulphur dioxide	20%
Nitrogen dioxide	20%
Total particulate	30%
Total organic carbon	30%
Hydrogen chloride	40%
Hydrogen fluoride	40%

32 Describe the monitoring of process variables, using the format tabulated below. For emissions to air, include at least the arrangements for monitoring oxygen content, temperature, pressure and water vapour content at the points where emissions to air will be monitored (WID Article 11 (7)). For emissions of waste water from the cleaning of exhaust gases include at least the arrangements for monitoring pH, temperature and flow rate (WID Article 8 (6)).

Refer to the BATOT document for further information.

Incineration line	Process variable	Describe monitoring proposed
1 & 2 exhaust stacks	Flue gas O_2 content	MCERTS CEMS equipment
	Flue gas temperature	MCERTS CEMS equipment
	Flue gas pressure	MCERTS CEMS equipment
	Flue gas water vapour content	MCERTS CEMS equipment

Describe how the heat generated during the incineration and co-incineration process is recovered as far as practicable, for example through combined heat and power, the generating of process steam or district heating.		
33	You must assess the potential for heat recovery from each line, using the guidance in this Sector Guidance Note. You must justify any failure to recover the maximum amount of heat.	Refer to the updated Heat Plan submitted with this application 413.00034.00562/HP.
34	Describe how you will minimise the amount and harmfulness of residues and describe how they will be recycled where this is appropriate.	The largest quantity of hazardous residue generated is APCR. Quantities of boiler and fly ash are smaller in comparison. APCR contain a considerable proportion of unused bicarbonate reagent, due to the nature of the APC system. The APCR is recycled through the FGT system a number of times, to ensure maximum use of the remaining active bicarbonate reagent. Once spent the APCR is removed from the FGT system and sent for disposal. At present disposal to landfill is the most practicable option, however, Biffa will regularly review the disposal options and will consider sending APCR on for further use / recycling should it be an option. Incinerator Bottom Ash will also be generated and will be treated on site (to recover metals for example) prior to being sent off site for recovery.
35	For each significant waste that you dispose of, provide the following information:	
	• incineration line identifier	L1 or L1 and L2
	• residue type reference (e.g. RT1, RT2 etc)	Incinerator bottom ash, IBA1 and 2; boiler and fly ashes, BA1 and 2; air pollution control residues, APCR1 and 2.
	• source of the residue	IBA - combustion grate; BA – boiler and fly ashes carried into the boiler passes and removed from the lower hoppers; APCR – flue gas treatment system.
	• description of the residue	IBA – residue produced by combustion on the primary chamber moving grate. Boiler Ash/Fly Ash – coarse/fine ashes produced during combustion and carried over into boiler passes – combined with APCR. APCR – removed by the air pollution control equipment, including reacted and unreacted reagents.
	• details of transport and intermediate storage of dry residues in the form of dust (e.g. boiler ash or dry residues from the treatment of combustion gases from the incineration of waste). Article 9 of WID requires operators of incineration plant to prevent dispersal in the environment in the form of dust.	Handling and transport of BA and APCR within the facility is undertaken using fully closed systems, based on a combination of belt and pneumatic conveying systems. Intermediate storage is provided by silos. Transfer of residues to bulk transport vehicles for off-site transport to a landfill site for disposal is undertaken using fully enclosed pneumatic materials handing systems to prevent dust emissions.
	• details of total soluble fraction and soluble heavy metal fraction of residues. Article 9 of WID requires operators of incineration plant to establish physical and chemical characteristics and polluting potential	BA/APCR residues will be transferred by pneumatic bulk tankers to a suitable class of landfill for disposal. See the updated Residue Management Plan submitted with the application also, reference 413.00034.00562/RMP.

	Describe how the heat generated during the incineration and co-incineration process is recovered as far as practicable, for example through combined heat and power, the generating of process steam or district heating.	
	of incineration residues. • route by which the residue will leave the installation – e.g. recycling, recovery, disposal to landfill, other.	The composition of the APCR will be specific to the process on site. The typical composition will be confirmed during the commissioning phase. Actual details will be confirmed during operational stages. Operation will be within the conditions of the Permit.
36	Article 6(1) of WID requires incinerators to be operated in order to achieve a level of incineration such that the slag and bottom ashes have a total organic carbon (TOC) content of less than 3%, or their loss on ignition (LOI) is less than 5% of the dry weight of the material. Where the incinerator includes a pyrolysis stage or other stage in which part of the organic content is converted to elemental carbon, the portion of TOC which is elemental carbon may be subtracted from the measured TOC value before comparison with the 3% maximum, as specified in the Defra Guidance on the Waste Incineration Directive. Note that WID Article 6(1) requirements are complied with if either TOC or the LOI measurement referred to below is achieved. TOC: for waste incinerators, 3% as maximum as specified by WID Article 6(1). LOI: for waste incinerators, 5% maximum as specified by WID Article 6(1). Specify whether you intend to use total organic carbon (TOC) or loss on ignition (LOI) monitoring of your bottom ash or slag.	A decision has not yet been made by the operator. Whichever parameter is chosen -- TOC or LOI – IBA will meet WID requirements.