



**Pollution Prevention and Control Act 1999  
Local Authority Pollution Prevention and Control  
The Environmental Permitting (England and Wales)  
Regulations 2016**

**Radical waste Group Limited  
Beccles Business Park  
Anson Way  
Ellough  
Beccles  
Suffolk  
NR34 7TL**

**Ref - 17/00005/SCH13/V1**

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## **Introductory note: [This introductory does not form a part of the Permit]**

This Permit is issued under Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 (S.I.2016 No. 1154), to operate an installation carrying out activities covered by the description in Schedule 13 of the Regulations, to which Chapter IV of the Industrial Emissions Directive applies to the extent authorised by the Permit, namely **‘the operation of a small waste incineration plant (SWIP)’** (non-hazardous waste - less than 3 tonnes per hour)

This permit has been produced with consideration for the Environmental permitting technical guidance PG13/1(21) Reference document for the operation of small waste incineration plants (SWIPs).

Aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the Operator using the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated, and decommissioned.

A full description of the installation is given in the Application and the main features of the installation are as follows:

### **Brief description of the installation regulated by this permit**

The SWIP is located at an existing waste transfer station site and the RDF is produced on site.

#### **Small Waste Incineration Plant:**

The boiler is a Sugimet Horizon TOH 6MWth1.41Mwe RDF fired combined heat and power plant capable of burning 1.84 tonnes/hour.

The installation is a co-incineration SWIP which is fully modulated and under computer control. Fuel in the form of RDF is stored on a moving floor within a ladder type system that pushes the fuel to the chain conveyor. The chain conveyor transports the fuel from the storage to the furnace in-feeding system, which consists of a hydraulic push system that continuously feeds the furnace with RDF. The boiler is fitted with a PLC controller and a continuous emissions monitoring system to monitor combustion gases and has automatic tube cleaning utilising high speed exhaust gas recirculation. The boiler has an automatic de-ashing system which empties into enclosed collection bins. The boiler is designed to burn RDF and discharges to a 13-metre-high flue via an abatement plant. The abatement treatments for potential emissions include; flue gas recirculation, a multicyclone, a bag house filter, deNOx catalyst, additive injection system, and a urea injection system. A secondary combustion chamber is designed to hold gases at a minimum temperature of 850°C for a residence time of 2 seconds to abate; hydrogen chloride, hydrogen fluoride, polychlorinated dibenzo-p-dioxins and furans (PCDD/F), often referred to simply as dioxins. In addition, the biomass boiler is controlled by a Continuous Emission Monitoring System (CEMS) which monitors and reports data to the operator and is set with an alarm to activate if parameters are breached. The operation of the boiler and associated ORC is by SCADA.

The Status Log provides information relating to previous Permits at this site.

### Superseded Permits

Permit Holder	Reference Number	Date of Issue	Summary Details
Radical Waste Group Ltd	PPC/SWIP/17/1/1	30/6/2017	Initial Permit
Radical Waste Group Ltd	17/00005/SCH13	28/12/2018	Variation for using RDF
Radical Waste Group Ltd	17/00005/SCH13/V1	21/02/2023	Variation for change of boiler type

### Talking to us

The Local Authority can be contacted by telephone on 0330 016 2000, e-mail [environment@eastsoffolk.gov.uk](mailto:environment@eastsoffolk.gov.uk) or by writing to Environmental Protection at East Suffolk Council, Riverside, 4 Canning Road, Lowestoft, Suffolk, NR33 0EQ.

**If you are reporting a malfunction or failure of permitted activity outside normal working office hours, you should phone 01502 527132. This line directs you to a call centre at East Suffolk Council and is exclusively for reporting genuine emergencies.**

### Public Registers

The application, the permit and documents concerned with the determination of the application and subsequent reports and correspondence are held on the public register, a copy of which is available to view free of charge during office hours. The register is held in accordance with the requirements of the Environmental Permitting (England and Wales) Regulations 2016. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

### Confidentiality

The Permit requires the Operator to provide information to East Suffolk Council. The Council will place the information onto the public registers in accordance with the requirements of the Environmental Permitting (England and Wales) Regulations 2016. If the Operator considers that any information provided is commercially confidential, it may apply to East Suffolk Council to have such information withheld from the register as provided in Environmental Permitting (England and Wales) Regulations 2016. To enable East Suffolk Council to determine whether the information is commercially confidential, the Operator should provide clear justification for each item wishing to be kept from the register. The onus is on the operator to provide a clear justification for each item to be kept from the register. It will not simply be sufficient to say that the process is a trade secret.

Information may also be excluded from the public register on the grounds of National Security. If it is considered that the inclusion of information on a public register is contrary to the interests of national security, the operator may apply to the Secretary of State/Welsh Ministers, specifying the information and indicating the apparent nature of risk to national security. The operator must inform the local authority of such an application that will not include the information on the public register until the Secretary of State/Welsh Ministers has decided the matter.

## Variations to the permit

This Permit may be varied in the future. If at any time the activity or any aspect of the activity regulated by the following conditions changes such that the conditions no longer reflect the activity and require alteration. You must submit a formal Application to Environmental Health at East Suffolk Council. The 'Status Log' within the introduction note will include summary details of each permit variation issued.

## Surrender of the permit

Where an Operator intends to cease the operation of an installation (in whole or in part) East Suffolk Council should be informed in writing, such notification must include the information specified in Regulation 24 or 25 of the Environmental Permitting (England and Wales) Regulations 2016.

## Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit must be made by both the existing and proposed holders, in accordance with Regulation 21 of Environmental Permitting (England and Wales) Regulations 2016. A transfer will be allowed unless East Suffolk Council considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit.

## Enforcement and Offences

If East Suffolk Council are of the opinion that you have contravened or are likely to contravene a condition of this permit it may serve an Enforcement Notice; in accordance with Regulation 36 of the Environmental Permitting (England and Wales) Regulations 2016. If East Suffolk Council is of the opinion that the continued operation of the installation involves a risk of serious pollution it will serve a Suspension Notice under Regulation 37 of the Environmental Permitting (England and Wales) Regulations 2016.

Offences detailed in Regulation 38 of the Environmental Permitting (England and Wales) Regulations 2016 include failing to comply with or contravening a condition in this Permit, failing to comply with an enforcement notice or suspension notice, intentionally making a false entry in any records kept under a condition of this Permit. A person found guilty of an offense, upon summary conviction could be liable (i) to the maximum penalty of a £50,000 fine and/or twelve months imprisonment, or (ii) upon conviction to an unlimited fine and/or five years imprisonment.

## Responsibility under the workplace health & safety legislation

This Permit is given in relation to the requirements of Environmental Permitting (England and Wales) Regulations 2016. It must not be taken to replace any responsibilities you may have under Workplace Health and Safety legislation.

## Appeals against permit conditions

Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for the Environment. Appeals must be made in accordance with the requirements of Regulation 31 and Schedule 6 of the Environmental Permitting (England and Wales) Regulations 2016. The right to appeal does not apply in circumstances where a notice implements a Direction of the Secretary of State given under Regulations 62 or when determining an appeal.

**Appeals must be received by the Appeal Body at the following address no later than 2 months from the date of the Notice being appealed against.**

The Planning Inspectorate  
Environmental Team, Major and Specialist Casework  
Room 4/04 Kite Wing  
Temple Quay House  
2 The Square  
Temple Quay  
BRISTOL  
BS1 6PN

Tel: 0303 444 5000

Email: [enquiries@pins.gsi.gov.uk](mailto:enquiries@pins.gsi.gov.uk)

If an appeal is made, the main parties will be kept informed about the next steps, and will also normally be provided with additional copies of each other's representations.

To withdraw an appeal, which may be done at any time, the appellant must notify the Planning Inspectorate in writing and copy the notification to the local authority who must in turn notify anyone with an interest in the appeal.

The appeal must be in the form of a written notice or letter stating that the person wishes to appeal against the conditions of the Permit. The following items must be included:-

- a written notice;
- a statement of the grounds of appeal;
- a statement indicating whether the appellant wishes the appeal to be dealt with by written representations procedure or hearing;
- a copy of the relevant permit;
- a copy of any relevant correspondence between the appellant and the regulator &
- a copy of any decision or notice, which is the subject matter of the appeal.
- a statement indicating whether the appellant wishes the appeal to be in the form of hearing or dealt with by way of written representations.

Appellants should state whether any of the information enclosed with the appeal has been the subject of a successful application for commercial confidentiality under Regulation 48 of the Environmental Permitting (England and Wales) Regulations 2016, and provide relevant details, see below. Unless such information is provided, all documents submitted will be open to inspection.

**An appeal will not suspend the effect of the Permit; the Permit must still be complied with.**

The operator and East Suffolk Council will normally be expected to pay their own expenses during an appeal. Where a hearing or inquiry is held as part of the appeal process, by virtue of paragraph 5(6) of Schedule 6 of the Environmental Permitting (England and Wales) Regulations 2016, either the appellant or the authority can apply for costs. Applications for costs are normally heard towards the end of the proceedings and will only be allowed if the party claiming them can show that the other side behaved unreasonably and put them to unnecessary expense. There is no provision for costs to be awarded where appeals are dealt with by written representatives.

**End of Introduction**

**Schedule 13A Environmental Permit issued under The Pollution  
Prevention and Control Act 1999 Environmental Permitting  
(England & Wales) Regulations 2016**

**Permit Reference Number: 17/00005/SCH13/V1**

East Suffolk Council (the Regulator) in exercise of its powers under Regulation 13 of the Environmental Permitting (England & Wales) Regulations 2016.

**hereby permits the following installation:-**

**Radical Waste Group Limited (“the operator”),  
Anson Way  
Beccles Business Park  
Ellough  
Beccles  
Suffolk  
NR34 7TL**

**Company No. 09007328**

To operate the permitted activity: a Small Waste Incineration Plant (SWIP) as defined in the above Regulations to the extent permitted by and subject to the following conditions, within the installation boundary identified on Site Plan attached at page 23 of this Permit.

**Signed**



**Dated**

**21.02.2023**

**Louise Burns**

Environmental Health Officer

Authorised to sign on behalf of East Suffolk Council



## Extent and limit of the installation

The Operator is authorised to carry out the activities and/or associated activities specified in Table A, within the installation boundary.

<b>Table A</b>		
<b>Activities and Associated Activities under Schedule 13A of The EPR 2016</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
<b><i>Associated Activities</i></b>		
<b>Receipt, storage and handling of RDF</b>	RDF is produced on site in a separate installation in accordance with existing EA permit ref:	Schedule 9 Waste Operation For the purpose of Schedule 9(3)(1) covered by EA permit ref: EPR/DP3594LJ/V003
<b>Receipt, storage and handling of wood waste</b>	EPR/DP3594LJ/V003	Adjacent to Construction & Demolition Waste Recycling Standard Rules permit (2010 no.12)
<b><i>Schedule 13 Activities</i></b>		
<b>The incineration of RDF which may give rise to environmental impact</b>	The incineration of RDF and wood waste using a 1-2 MWe RDF fired combined heat and power plant.	Maximum input of waste shall not exceed 3 tonnes per hour.
<b>The incineration of wood which may give rise to environmental impact</b>	Cyclone, filter and incinerator waste [ash].	
<b>Collection and storage of residues</b>		

### Detailed Description of Permitted Activity:

#### **Fuel Storage and Transportation**

The installation is a combined heat and power biomass boiler which is fully modulated, and computer controlled. Wood and Refuse Derived Fuel are stored in the same building that houses the boiler. It is enclosed on three sides and is therefore protected from wind and rain. The fuel is placed onto a moving floor within a ladder type system that pushes the fuel to the chain conveyor. The chain conveyor transports the fuel to the furnace in-feeding system, which consists of a hydraulic push system that continuously feeds the furnace

## **Boiler**

Within the boiler, RDF and wood are burned on a hydraulically driven moving grate hearth, where it is subsequently combusted. The boiler is also equipped with an auxiliary gas-burner to ensure full combustion of RDF and maintenance of the minimum 850°C temperature required by the IED.

The temperature in the boiler is controlled between 925°C and 975°C by the SCADA system. The SCADA system controls and data logs key operating parameters for combustion air input, fuel input rate, flue gas recirculation, temperature and damper control. The boiler will be fitted with flue gas recirculation and a SNCR (selective non-catalytic reduction) system for reducing NOx by injecting urea solution.

## **Flue Gas Cleaning**

Flue gases from the boiler are directed through a flue gas abatement cleaning system. The system comprises of a ceramic filter. A Glosfume powder injection system will be used alongside the sodium Bicarbonate to reduce HCl, SO<sub>2</sub>, dioxins and heavy metals with additional activated carbon additive system to reduce VOC emissions. The Ceramic filter will reduce particle emissions to below 5mg/m<sup>3</sup>N.

A continuous emissions monitoring systems (CEMS) measures key pollutant emissions exiting the stack, along with temperature and moisture. The CMES system automatically controls the dosing level of sodium bi-carbonate and activated carbon to ensure emission levels meet the half hour averages and daily averages.

## **Ash**

The ash resulting from combustion falls through the moving grate into the wet ash conveyor and is automatically transported to the ash container. The ash is then disposed of off site. The wet ash conveyor system prevents dust from spreading in the boiler house and lowers potential dust emissions.

## **Steam Cycle**

Steam is produced in a vertical water boiler which is automatically cleaned by a high pressure soot blowing system. The steam is superheated to drive the turbine and coupled with a generator, produces electricity. The steam from the turbine is then condensed by the heating circuit water.

## **Heat Recovery**

Heat from the boiler heats water which is fed through pipes to the 'plastics shed' on site [drawing LD48-BB-014 where there are fan/heaters and drying units.

## **Site Boundary**

*The operator is authorised to carry out the activities as specified within the boundary known as B & B Skips Waste Transfer and Treatment Station, Beccles Business Park, Ellough, Beccles, Suffolk, NR34 7TL as shown edged in red on the site plan at page 21 of this permit and not beyond.*

## **Permitted Waste Types**

*The operator shall only use permitted waste types in the small waste incineration plant these are specified in Table B, which must be incinerated in accordance with the requirements of the*

*Industrial Emissions Directive. The secondary combustion chamber must provide a temperature of >850°C for a residence time of at least 2 seconds for the combustion gases.*

**Table B Permitted Waste Types to be incinerated**

<b>Waste Code and Description</b>	<b>Source</b>	<b>Quantity (tonnes per annum)</b>
<b>03 01 05 Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04</b>	B and B Skips waste transfer station operated at this site.	24,000 tonnes per annum
<b>03 01 99 wastes not otherwise specified</b>		
<b>03 03 01 Waste bark and wood</b>		
<b>15 01 03 Wooden Packaging</b>		
<b>17 02 01 Wood</b>		
<b>19 12 07 Wood other than those mentioned in 19 12 06</b>		
<b>19 12 10 Combustible waste (refuse derived fuel)</b>		
<b>20 01 38 Wood other than those mentioned in 20 01 37</b>		

## Conditions

The conditions contained within this Permit are based upon the draft Environmental permitting technical guidance PG13/1(21).

Reference document for the operation of small waste incineration plants (SWIPs)

The requirements of the conditions attached to this permit shall come into effect on the date indicated in the individual condition or if no date is indicated shall take effect forthwith.

### **1.0 Overarching Management Conditions**

- 1.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.
- 1.2 The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation, which is not regulated by any other condition of this Permit.

### **2.0 Emission Limits and Process Controls**

- 2.1 For the purposes of this permit, the installation shall include the activities specified in Table 1.

<b>Table 1: Activities</b>		
<b>Activities in the stationary technical unit</b>	<b>Description of specified activity</b>	<b>Schedule 13 to the Environmental Permitting Regulations 2016 as amended</b>
Co-incineration of non-hazardous waste	Co-incineration of refuse derived fuel (RDF) and waste wood products in a 1-2 MWe fired combined heat and power plant.(no more than 3 tonnes/hour). Steam production and electricity generation	Chapter IV of the Industrial Emissions Directive, Incineration and co-incineration of waste
<b>Associated Activities under Schedule 13A of The EPR 2016</b>	<b>Description of specified activity</b>	<b>Schedule 13 to the Environmental Permitting Regulations 2016 as amended</b>
Receipt, storage and handling of RDF  Receipt, storage and handling of wood waste	RDF is produced on site in a separate installation in accordance with existing EA permit ref: EPR/DP3594LJ/V003	Schedule 9 Waste Operation For the purpose of Schedule 9(3)(1) covered by EA permit ref: EPR/DP3594LJ/V003 Adjacent to Construction & Demolition Waste Recycling Standard Rules permit (2010 no.12)

- 2.2 All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist.

- 2.3 All emissions to air shall be free from persistent fume, smoke and free from droplets.
- 2.4 The introduction of dilution air to achieve emission concentration limits contained within this authorisation is not permitted.
- 2.5 The operator shall not incinerate any hazardous waste in the small waste incineration plant.
- 2.6 The maximum input of waste that may be incinerated in the small waste incineration plant shall not exceeding 3 tonnes per hour.
- 2.7 The emission limits in Table 2 below shall not be exceeded. The frequency of extractive emission monitoring shall comply with the requirements set out in the table. All emissions sampling, testing and laboratory analysis shall be to MCERTS standards.

<b>Table 2 . Emission limit values for small waste co-incineration plants - periodic monitoring (ref 6 vol-% O2)</b>			
<b>Substance/ Parameter</b>	<b>Emission Limit Value</b>	<b>Averaging / Sampling period</b>	<b>Monitoring Frequency</b>
Sulphur dioxide	75 mg/Nm <sup>3</sup>	Average over the sampling period i.e. the average of three consecutive measurements of at least 30 minutes each	Every 3 months in first year and then every 6 months thereafter
HCl	15 mg/Nm <sup>3</sup>		
HF	3 mg/Nm <sup>3</sup>		
Cd and Tl	Total: 0.05 mg/Nm <sup>3</sup>	Average emission limit values <sup>(1)</sup> over a sampling period of a minimum of 30 minutes and a maximum of 8 hours A minimum sampling period of one hour is recommended.	Every 3 months in first year and then every 6 months thereafter
Hg	0.05 mg/Nm <sup>3</sup>		
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V	Total: 0.5 mg/Nm <sup>3</sup>		
Dioxins and furans <sup>(2)</sup>	0.1 ITEQ ng/Nm <sup>3</sup>	Average emission limit value over a sampling period of a minimum of 6 hours and a maximum of 8 hours.	Every 3 months in first year and then every 6 months thereafter
Dioxin-like polychlorinated biphenyls	No limit specified		
Polycyclic aromatic hydrocarbons (PAHs) <sup>(3)</sup>	No limit specified	Average over the sampling period – a minimum sampling period of 1.5 hours is recommended.	Every 3 months in first year and then every 6 months thereafter
<p>(1) These average values cover also the gaseous and the vapour forms of the relevant heavy metal emissions as well as their compounds.</p> <p>(2) The emission limit value refers to the total concentration of dioxins and furans calculated in accordance with the toxic equivalence factors shown in table 5.4.</p> <p>(3) The term PAHs refers to the sum of the following PAH compounds: acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene and pyrene.</p>			

2.8 The regulator may decide to require one measurement every 2 years for heavy metals and one measurement per year for dioxins and furans in the following cases:

- the emissions resulting from co-incineration or incineration of waste are under all circumstances below 50 % of the emission limit values; or
- the waste to be co-incinerated or incinerated consists only of certain sorted combustible fractions of non-hazardous waste not suitable for recycling and presenting certain characteristics; and
- the operator can prove based on information on the quality of the waste concerned and the monitoring of the emissions that the emissions are under all circumstances significantly below the emission limit values for heavy metals and dioxins and furans.

2.9 The emissions in table 3 below shall be continuously monitored by the means of a CEMS system and shall comply with the daily average emission limits in the table.

<b>Table 3. Emission limit values for small waste co-incineration plants - continuous monitoring (ref 6 vol-% O<sub>2</sub>)</b>					
<b>Substance/ Parameter</b>	<b>Emission Limit Value (mg/Nm<sup>3</sup>)</b>				<b>Backstop ELV <sup>(4)</sup> (mg/Nm<sup>3</sup>) Half-hour average</b>
	<b>Daily average</b>	<b>Half-hourly average <sup>(2)</sup></b>		<b>10-Minute average <sup>(3)</sup></b>	
		<b>100%</b>	<b>97%</b>	<b>95%</b>	
Carbon Monoxide <sup>(1)</sup>	75	150	N/A	225	150
Total Dust	15	45	15	N/A	225
Oxides of Nitrogen	300	600	300	N/A	N/A
Sulphur dioxide	75	300	75	N/A	N/A
TOC	15	30	15	N/A	30
HCl	15	90	15	N/A	N/A
HF	1.5	6	3	N/A	N/A

(1) The regulator may apply a single ELV of 150 mg/Nm<sup>3</sup> as an hourly average for incineration plants using fluidised bed technology.

(2) The regulator should choose which limit to apply, either 100% compliance with the higher value or 97% compliance with the lower value.

(3) In the case of CO emissions, 95% compliance with the 10-minute average of 225 mg/Nm<sup>3</sup> is an alternative to 100% compliance with the half hour limit of 150 mg/Nm<sup>3</sup>. In which case, this will also be the backstop ELV.

(4) The backstop ELV applies during periods when the half-hourly ELV is exceeded, as described in Section 5.4.

2.10 Monitoring of emissions, where required, should be carried out according to the method specified in Table 4 or by an equivalent method agreed by the regulator. Where reference is made to a British, European, or International standard (BS, CEN or ISO) in this section, the standards referred to are correct at the date of publication.

Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or MCERTS

accreditation (as appropriate). MCERTS is the Environment Agency's Monitoring Certification Scheme.

<https://www.gov.uk/government/collections/monitoring-emissions-to-air-land-and-water-mcerts>

Table 4 - emission monitoring standards (air)		
Substance / Parameter	Standard <sup>(1)</sup>	
	Continuous	Periodic
Carbon monoxide	EN 15267-1, -2 & -3 and EN 14181	Not applicable
Dust		Not applicable
Oxides of Nitrogen (NO and NO <sub>2</sub> , expressed as NO <sub>2</sub> )		Not applicable
Total organic carbon (TOC)		Not applicable
Sulphur dioxide		EN 14791
Hydrogen chloride		EN 1911
Hydrogen fluoride		ISO 15713 CEN TS 17340 <sup>(3)</sup>
Dioxins and furans (PCCD/F)	Not applicable	EN 1948 parts 1, 2 and 3
Dioxin-like polychlorinated biphenyls (PCBs) <sup>(2)</sup>	Not applicable	EN 1948 part 4
Polycyclic aromatic hydrocarbons (PAHs) <sup>(2)</sup>	Not applicable	ISO 11338 Parts 1 and 2
Metals	Not applicable	EN 14385 and EN 13211
<p>(1) The standards referred to are correct at the date of publication. (Users of this note should bear in mind that the standards are periodically amended, updated or replaced. Further information on monitoring can be found in the Environment Agency publication <a href="https://www.gov.uk/government/collections/monitoring-stack-emissions-environmentalpermits">https://www.gov.uk/government/collections/monitoring-stack-emissions-environmentalpermits</a>.</p> <p>(2) In the case of hazardous waste incinerators accepting waste streams that could include dioxin-like polychlorinated biphenyls and polycyclic aromatic hydrocarbons.</p> <p>(3) CEN TS 17340 will eventually replace ISO 15713. Either standard can be used in the interim.</p>		

- 2.11 The emission limits are based on normal operating conditions and load, temperature: 0°C (273K); pressure: 101.3 kPa; and 6% oxygen (dry gas).
- 2.12 The temperatures of the primary and secondary combustion chambers shall be continuously monitored and recorded. The location of the temperature probes shall be representative of the combustion chamber size, gas flow and burner locations.
- 2.13 The operator shall not operate the small waste incineration plant unless the abatement methods used to control emissions are functioning correctly and the continuous emission monitoring system (CEMS) is fully functional and recording; temperature, pressure, oxygen concentration, moisture and emissions, in accordance with Table 3.
- 2.14 The co-incineration combustion plant shall be fitted and operated with a suitable air emissions abatement plant to remove acid gases (i.e. hydrogen chloride (HCl), hydrogen fluoride (HF), Nitrogen dioxide (NO<sub>2</sub>), Sulphur Dioxide (SO<sub>2</sub>)) and particulate matter.

The emissions abatement unit shall be continuously monitored for pressure and temperature. An alarm shall interrupt the feed system of the sorbent if the pressure and/or temperature exceeds the range set for the operation of the thermal treatment plant.

- 2.15 The SWIP shall be operated and controlled by an effective PLC system with full SCADA control and recording. The system shall utilise alarms at key critical points to ensure that the process is always running at normal operating conditions.
- 2.16 The operator shall produce a risk-based operating system plan based upon SOP's and operator work instructions. The plan shall be made available to the regulatory for inspection.
- 2.17 Continuous monitoring probes for emissions shall be serviced and calibrated in line with the manufacturers recommendations and calibration certificates retained for at least 3 years.
- 2.18 Waste gases from the small waste incineration plant, shall only be discharged from the 13m high chimney stack as indicated.
- 2.19 The emissions to air from the extract chimney stack shall be designed to achieve an efflux velocity of 15 m/sec during normal operation conditions. No restriction shall be placed on the final opening of the stack discharge to cause any aerodynamic down wash or loss of dispersion.
- 2.20 The Glosfume ceramic particulate matter filter shall be continuously monitored for pressure differential across the filter.
- 3.21 There shall be no offensive odours emitted from the SWIP and associated waste fuel storage and handling operations

**3.0 Waste Acceptance**

- 3.1 The operator must have procedures in place to ensure that only the permitted types of waste described in table 5 are accepted for incineration. Waste acceptance and pre-acceptance procedures should be documented in the operator's Environmental Management System (EMS)/Working Plan (WP).

<b>Table 5 – Waste types and codes</b>		
<b>Waste Code</b>	<b>Description</b>	<b>Entry Type</b>
19 12 10	Combustible waste (refuse derived fuel)	
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	



#### 4.0 **Monitoring of emissions**

- 4.1 Monitoring equipment, techniques, personnel and organisations employed for the extractive emissions monitoring shall have either MCERTS certification or MCERTS accreditation (as appropriate).
- 4.2 The plant shall be operating under stable conditions at a representative even load and waste types when extractive monitoring is being conducted.
- 4.3 The operator shall ensure that relevant stacks or ducts are fitted with facilities for sampling that comply with EN 15259
- 4.4 The sampling shall be undertaken from a stack sampling location, which shall be a suitably located platform with sufficient space to sample. The sampling shall be undertaken during normal operating conditions and the results of all such sampling emission testing shall be forwarded to the Regulator at East Suffolk Council within 4 weeks of the completion of the sampling.
- 4.5 The local authority regulator shall be notified 14 days prior to any extractive emission monitoring exercise taking place with the site-specific protocol for the monitoring that will be undertaken.
- 4.6 The operation, maintenance and calibration of the continuous emission monitoring system (CEMS) shall be undertaken in accordance with manufacturer's instructions and shall be recorded in a logbook. The operation, calibration and reporting of continuous emissions shall be as detailed in schedule 1 (page 28) of this permit.
- 4.7 Continuous emission monitoring system (CEMS) readings of the thermal treatment plant shall be on display and readily available to trained operating staff. The operator shall check the monitoring display during the charging of the incinerator and at periodic intervals thereafter.
- 4.8 Where the continuous emission monitoring system (CEMS) alarm is triggered, the operator shall carry out an investigation to identify the cause and shall record the outcome of the investigation in the logbook.
- 4.9 Continuous emissions results shall be made available to the regulator to review at each inspection.

#### 5.0 **Residues**

- 5.1 Residues from the small waste incinerator process including ash from the combustion plant and particulate from the flue gas abatement unit shall be stored in an enclosed container to prevent dispersal prior to its removal from site.
- 5.2 Transport and intermediate storage of dry residues shall be carried out in such a way as to prevent dispersal of those residues in the environment.
- 5.3 Prior to determining the routes for the disposal or recycling of the residues, appropriate tests shall be carried out to establish the physical and chemical

characteristics and the polluting potential of the residues so that a suitable and safe means of disposal is implemented.

#### 6.0 **Emissions to water**

- 6.1 There shall be no discharges of waste waters (other than boiler blow down water) from the process. All storage, handling and treatment of waste shall be undertaken on an impermeable pad and all drainage from the pad shall be to sealed drains
- 6.2 All contaminated water which might arise from any fire-fighting on site shall be collected and where possible directed into the sealed drains to prevent the pollution of surrounding land or surface water drainage systems.

#### 7.0 **Heat Recovery**

- 7.1 The SWIP plant shall be designed, equipped, built and operated in such a way that any heat generated shall be recovered as far as practicable, e.g. through the utilisation of heat, steam or power.
- 7.2 The operator shall keep appropriate records of energy/heat recovery from the thermal treatment unit and make available at inspection reports/summary of recovery performance. Heat recovery and usage meters shall be installed for this purpose.

#### 8.0 **Management and Training**

- 8.1 The operator shall ensure that the management and operation of the thermal treatment facility is undertaken by a competent person(s) who have been trained and certified by the plant installer and are experienced in the safe operation of the plant.
- 8.2 The thermal treatment plant shall be operated in accordance with the manufacturers operating standards and procedures. An Accident management plan shall be produced and implemented for the operation of the SWIP.
- 8.3 Effective management is central to environmental performance; it is an important component of BAT and of achieving compliance with permit conditions.

The Operator shall provide a structured environmental management system that addresses the following areas or to a published standard (i.e. ISO 14001),

- (a) Cleaning and maintenance
- (b) Training and plant operation
- (c) Waste acceptance criteria
- (d) Residue storage and disposal
- (e) Emission monitoring
- (f) Plant failures, including the management of waste during plant down time
- (g) Record keeping

## 9.0 **Maintenance**

- 9.1 The thermal treatment plant shall be maintained and services in accordance with the manufacturer's standards and procedures
- 9.2 All plant and equipment used in the process which may fail and could lead to an adverse impact on the environment, shall be maintained in a good operating condition.
- 9.3 A master list of all relevant plant and equipment, including part numbers and specifications shall be maintained on site together with a written or electronic maintenance programme, detailing when such plant and equipment should be cleaned, serviced, calibrated, and replaced.
- 9.4 Essential spares and consumables shall be held on site or shall alternatively be available at short notice from a contractor or supplier so that plant breakdowns can be rectified within 48 hours.
- 9.5 The thermal treatment plant, associated ductwork and stack shall be kept in a clean condition so as to ensure sensitive monitoring and electrical equipment is free from dust and particulate matter.

## 10.0 **Abnormal operation and breakdowns**

- 10.1 Waste fuel shall not be added or continue to be added to the SWIP plant if:
- a) The temperature indicated by the temperature probe at the exit from the plant is below, or falls below, 850°C; or
  - b) continuous measurement shows that an emission exceeds any emission limit value in Table 3 for any reason, for a total of 4 hours uninterrupted duration;
  - c) the cumulative duration of "abnormal operation" periods over 1 calendar year has reached 60 hours;
- 10.2 The operator shall record the beginning and the end of each period of abnormal operation.

The end of the period of abnormal operation means the earliest of the following:

- a) When the failed equipment is repaired and brought back into normal operation;
- b) When the operator initiates a shutdown of the small waste incineration plant, as described in the application or as agreed in writing with the Regulator;
- c) When a period of four hours has elapsed from the start of the period of abnormal operation;
- d) When, in any calendar year, an aggregate of 60 hours has been reached for periods of abnormal operation.

- 10.3 In the event of any period of abnormal operation the operator shall restore normal operation of the failed equipment or replace the failed equipment at the earliest possible time.
- 10.4 In the event of any incident or accident which may significantly affect the environment, the operator shall;
- (1) Immediately inform the Regulator at East Suffolk Council;
  - (2) Immediately take the steps to limit the environmental consequences and to prevent further accidents or incidents;
  - (3) Take complementary measures as required by the Regulator at East Suffolk Council to limit the environmental consequences and to prevent further accidents and incidents.
- 10.5 In the event of any breach of permit conditions the operator shall;
- (1) Immediately inform the Regulator at East Suffolk Council.
  - (2) Immediately take the measures required to ensure that compliance is restored in the shortest possible time;
  - (3) Take such complementary measures as required by the Regulator at East Suffolk Council; to restore compliance.
- 10.6 In the event of a breakdown the operator shall reduce or close down the plant operation as soon as practicable until normal operations can be restored.
- 10.7 The Operator shall maintain and implement written procedures for:-
- a) Taking prompt remedial action, investigating, reporting actual or potential non-compliance with operating procedures or emission limits, if such events occur;
  - b) Investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long-term remedial measures and near misses) and prompt implementation of appropriate actions;
  - c) Ensuring that detailed records are made of all such action and investigations.

11.0 **Record keeping**

11.1 The operator shall keep written records of the following as detailed in Table 6 :

<b>Table 6 - Records</b>		
<b>Matter to be recorded</b>	<b>Type of record</b>	<b>Time of Retention</b>
Waste types and quantities accepted	Consignment notes	Statutory period of 2 years
Monitoring of emissions (both continuous and periodic monitoring)	Electronic records including all monitoring parameters required by permit conditions	2 years
Abnormal conditions and any complaints	All relevant records including	2 years

made about the process	paper reports, emails and other electronic records	
Training for each trained person employed at the installation	Training given to relevant staff, with dates and reviews	1 year following exit from the company
Maintenance and breakdowns	All relevant records including Paper or electronic	2 years
All inspections and audits both by external bodies and internal employees	All relevant records including Paper or electronic	2 years

## 12.0 Noise Control

Noise emissions associated with the operation of the SWIP and any ancillary equipment such as AC;s, fuel handling operations and electricity generation shall be assessed and minimised as far as possible.

## 13.0 Commissioning Conditions

Table 7 below details conditions for pre-operational, commissioning and performance of the SWIP.

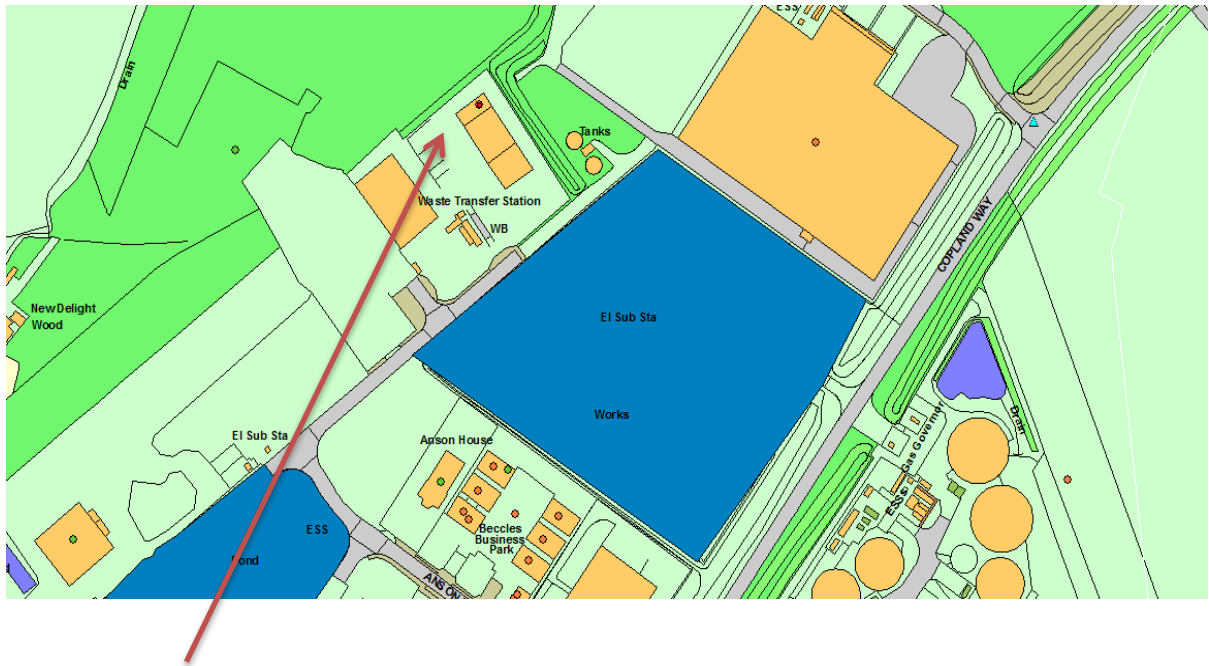
<b>Table 7 – Commissioning (pre-operational conditions)</b>	
<b>Commissioning conditions</b>	<b>Date</b>
The submission of data and calculations for <ul style="list-style-type: none"> <li>• evidence that the combustion unit achieves compliance of the 2 second residence time and temperatures (plug flow calculation).</li> <li>• Minimum temperature of waste gases at the outlet from the combustion chamber,</li> <li>• The oxygen content of waste gases at the outlet from the combustion chamber,</li> </ul>	At least one calendar month before commencement of commissioning

<b>Table 7 – Commissioning (pre-operational conditions) - continued</b>	
<b>Commissioning conditions</b>	<b>Date</b>
At least one calendar month before commencement of commissioning, the Operator shall provide a written commissioning plan, including timelines for completion, for approval by the Regulator. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Regulator in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.	At least one calendar month before commencement of commissioning
Stack emissions shall be tested for the pollutants listed in Table T1 within 6 weeks of installation and commissioning of the boiler to demonstrate compliance. Where the emission parameters are not	within 3 months of completion of commissioning.

<p>met then operations will cease and be re-tested until all parameters are met.</p>	
<p>The Operator shall submit a written report to the Regulator on the commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the facility against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions and confirm that the Environmental Management System (EMS) has been updated accordingly.</p>	<p>within 6 months of completion of commissioning.</p>

**End of Conditions**

## Site Location Plan



Radical Waste Group Ltd  
B&B Transfer & Treatment Facility  
Beccles Business Park  
Ellough  
Beccles  
NR34 7TL





## **Appendix A Permit determination timetable**

*Fee Paid 5<sup>th</sup> May 2017*

*Application 'Version 1' received 12<sup>th</sup> May 2017 'Needed revision'*

*Application 'Version 2' received 30<sup>th</sup> May 2017*

*Duly made and advertised on East Suffolk Web Site added to 30<sup>th</sup> May 2017*

*Details of Planning Permission received 6<sup>th</sup> June 2017*

*Consultation to Natural England and Environment Agency 6<sup>th</sup> June 2017*

*Responses from Natural England and Environment Agency 13<sup>th</sup> June 2017*

*Draft Permit 29<sup>th</sup> June 2017*

*Permit Granted 30<sup>th</sup> June 2017.*

*Variation Application received 12 December 2018*

*Draft Permit 21<sup>th</sup> January 2019*

*Permit Issued 28<sup>th</sup> January 2018*

*Variation Application received 28 June 2022*

*Draft Permit 4<sup>th</sup> January 2023*

*Permit Issued 21<sup>st</sup> February 2023*

## **Interpretation**

Unless otherwise specified, the definitions set out in the relevant Articles of Directive 2010/75/EU on industrial emissions (the Industrial Emissions Directive) (and in particular Article 3) shall apply throughout this permit.

In this Permit, the following expressions shall have the following meanings:-

**“Permissible periods of abnormal operation”** means any technically unavoidable stoppages, disturbances, or failures of the abatement plant or the measurement devices other than continuous emission monitors for releases to air of particulates, TOC and/or CO, during which the concentrations in the discharges into air and the purified waste water of the regulated substances may exceed the normal emission limit values.

**“BAT”** means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of impact on the environment as a whole. For these purposes: **“available techniques”** means “those techniques which have been developed on a scale 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 United Kingdom, as long as they are reasonably accessible to the operator”; **“best”** means “in relation to a

whole” and “**techniques**” “includes both the technology used and the way in which the installations is designed, built, maintained, operated and decommissioned.”

“**Fugitive emission**” means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by conditions of this Permit.

“**MCERTS**” means the Environment Agency’s Monitoring Certification Scheme. It provides a delivery vehicle for compliance with European directives which regulate industrial emissions, monitoring data, equipment, and personnel.

“**Monitoring**” includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

“**Staff**” includes employees, directors or other officers of the Operator, and any other person under the Operator’s direct or indirect control, including contractors.

“**Year**” means calendar year ending 31st December.

“**Change in operation**” means a change in the nature or functioning, or an extension of the installation, which may have consequences for the environment.

## **Explanatory Notes**      *[These notes do not comprise part of the permit.]*

### **Subsistence Charge**

An application fee has been paid for this permit. An annual subsistence charge, which is subject to variation by Central Government, is payable to this Council to ensure this Permit remains in force. An invoice will be sent for the appropriate subsistence charge each year.

### **General Statutory Requirements**

This permit does not detract in any way from other statutory requirements applicable to you or the installation such as any need to obtain planning permission or building regulation approval or responsibilities you have under other legislation for health, safety and welfare in the workplace. If there are any situations where different standards are required under these two types of legislation, the more stringent standard will apply.

### **Review of Conditions**

The “Conditions” contained in this Permit will be reviewed by the local authority at intervals, in accordance with Regulation 34 of “The Environmental Permitting (England and Wales) Regulations 2016”. The next such programme of review is scheduled to take place in 2023. Where a justifiable complaint is attributable to the operation of this process or where new

knowledge develops on any harmful effects from any emissions from this type of installation. An immediate review of the process will be undertaken and the local authority will specify any new requirements together with an appropriate time-scale.

Where a condition of the permit requires a systematic assessment or review, the assessment shall be undertaken in a methodical and arranged manner. Guidance may be obtained from Environmental Health at East Suffolk Council.

### **Management arrangements**

All references to “reasonable times” in this Permit include; all times when the process is operational or when there are employees present at the site or when the site is open for business.

An Environmental Management System (EMS) is recommended as a key method for controlling emissions and thereby achieving compliance with permit conditions. This can be a simple in-house structured system that ensures Environmental Permitting considerations are taken into account in the day to day running of the process. Such a system should be reviewed annually to ensure a continuous level of environmental improvement. Alternatively the Environmental Management System may be in compliance with a national standard such as ISO 14001 Certification.

### **End of Explanatory Notes**

## **Schedule 1**

### **Continuous emissions monitoring systems**

All continuous emissions monitoring systems (CEMs) shall have MCERTS certification and have an MCERTS certified range, which is not greater than 1.5 times the daily emission limit value (ELV). The CEMs shall also be able to measure instantaneous values over the ranges that are to be expected during all operating conditions. If it is necessary to use more than one range setting of a CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

MCERTS certified equipment can be found at

<https://www.csagroupuk.org/services/mcerts/mcerts-product-certification/mcerts-certified-products/>

All CEM shall be calibrated and verified according to EN 14181. This includes QAL1 (MCERTS certification), QAL2 (functional testing and calibration with periodic reference methods) and QAL3 (ongoing quality assurance using zero and span gases)

### **Reporting results of continuous emissions monitoring**

Electronic reports shall be forwarded to Environmental Health at East Suffolk Council and summarised in a 6 monthly report submitted not later than 4 weeks at the end of each period. The relevant periods are January to June and July to December.

#### **Content of Report**

The report shall incorporate the following information as a minimum:-

##### ***Introduction***

- Name and address of process.
- Contact name and telephone number.
- Period of either January to June or July to December.
- Small Waste Incinerator (make/model reference) monitored.
- Any changes to operations (e.g. process or monitoring equipment).
- Pollutants measured.
- Equipment used for continuous monitoring including MCERTS certification number.
- Details of MCERTS certification for monitoring staff.
- Results of all continuous monitoring parameters, both before and after uncertainties are subtracted.
- Details of any uncertainties.
- Periodic calibration reports.