

# Annual performance report for: Integra South West Energy Recovery Facility

Permit Number: EPR/ BJ7093IY

Year: 2018

This document represents the Annual Performance Report for Integra South West Energy Recovery Facility (Marchwood ERF) and has been submitted in compliance with Chapter IV Article 55(2) of the Industrial Emissions Directive (IED):

*“For waste incineration plants or waste co-incineration plants with a normal capacity of 2 tonnes or more per hour, the report referred to in Article 72 shall include information on the function and monitoring of the plant and give account of the running of the incineration or co-incineration process and the level of emissions into air and water in comparison with the emission limit values. That information shall be made available to the public.”*

## 1. Introduction

Name and address of plant	Veolia ES Hampshire Ltd Integra South East Energy Recovery Facility Oceanic Way Marchwood Industrial Park Hampshire SO40 4BD
Description of waste input	Non-hazardous municipal waste and similar commercial wastes
Operator contact details if members of the public have any questions	020 7812 5000

## 2. Plant description

Marchwood ERF was the second of its kind to be built in Hampshire and is leading example of best environmental practice for waste treatment. Waste produced by Southampton City and South West Hampshire Districts is processed at this ERF, providing a long term, sustainable solution for waste recovery. It recovers heat energy from the waste to produce steam, which is used to generate electricity supplied to the National Grid. Strict environmental controls and proven operating experience ensure the Marchwood ERF is a centre of excellence and a benchmark for the industry.

### 3. Summary of Plant Operation

Municipal waste received	181,262 tonnes
Commercial and industrial waste received	18,223 tonnes
Total waste received	199,485 tonnes
Total plant operational hours	16417 hours combined
Total hours of “abnormal operation” (see permit for definition)	0 hours
Total quantity of incinerator bottom ash (IBA) produced	36,655 tonnes
Disposal or recovery route for IBA	R5: recycling of inorganic materials.
Did any batches of IBA test as hazardous? If yes, state quantity	None
Total quantity of air pollution control (APC) residues produced	5440 tonnes
Disposal or recovery route for APC residues	D9: physio-chemical treatment resulting in final compounds which are then discarded
Total electricity generated for export to the National Grid	181,262 MWh
Electrical energy used on installation	14,567 MWh

### 4. Summary of periodic monitoring results for emissions to air

The table below shows the results of periodically monitored substances.

Substance	Emission limit value	Results			
		Line 1		Line 2	
		13-15/03/2018	24-27/07/2018	13-15/03/2018	24-27/07/2018
Mercury and its compounds	0.05 mg/m <sup>3</sup>	0.0010 mg/m <sup>3</sup>	0.00076 mg/m <sup>3</sup>	0.0016 mg/m <sup>3</sup>	0.00072 mg/m <sup>3</sup>
Cadmium & thallium and their compounds (total)	0.05 mg/m <sup>3</sup>	<0.001 mg/m <sup>3</sup>	0.00089 mg/m <sup>3</sup>	0.001 mg/m <sup>3</sup>	0.0043 mg/m <sup>3</sup>
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m <sup>3</sup>	0.081 mg/m <sup>3</sup>	0.015 mg/m <sup>3</sup>	0.032 mg/m <sup>3</sup>	0.12 mg/m <sup>3</sup>
Dioxins and furans (I-TEQ)	0.1 ng/m <sup>3</sup>	0.0026-0.0028 ng/m <sup>3</sup>	0.0044 ng/m <sup>3</sup>	0.0049-0.0052 ng/m <sup>3</sup>	0.0248 ng/m <sup>3</sup>
Hydrogen Fluoride	2 mg/m <sup>3</sup>	0.04 mg/m <sup>3</sup>	0.095 mg/m <sup>3</sup>	<0.03 mg/m <sup>3</sup>	<0.039 mg/m <sup>3</sup>

## 4.2 Summary of monitoring results for emissions to water

The table below shows the results of the continuous sea water cooling monitoring.

Parameter	Calendar Month												Limit
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Oil and Grease mg/l	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible	None visible
Chlorine µg/l (Total Residual Oxidant)	159	100	Dosing off	117	177	165	127	155	48	185	111	140	250
Flow Rate m <sup>3</sup> /h	3199	3256	3265	3274	3275	3273	3266	3259	3257	3276	3286	3287	3300
Temperature °C	9.5	9.0	9.2	9.3	9.8	9.4	9.6	9.5	10.6	9.0	10.0	10.0	11°C above intake

## 5. Summary of Permit Compliance

### 5.1 Compliance with permit limits for continuously monitored pollutants

The plant met its emission limits as shown in the table below.

Substance	Percentage time compliant during operation	
	Half-hourly limit	Daily limit
Particulates	100 %	100 %
Oxides of nitrogen	100 %	100 %
Sulphur dioxide	100 %	100 %
Carbon monoxide	100 % of 95% of 10-min averages	100 % of 95% of 10-min averages
Total organic carbon	100 %	100 %
Hydrogen chloride	100 %	100 %
Hydrogen fluoride	100 %	100 %

## 5.2 Summary of any notifications or non-compliances under the permit

Date	Summary of notification or non-compliance	Reason	Measures taken to prevent reoccurrence
	None		

## 5.3 Summary of any complaints received and actions to taken to resolve them.

Date of complaint	Summary of complaint	Reason for complaint including whether substantiated by the operator or the EA	If substantiated, measures to prevent reoccurrence
	None		

## 6. Summary of plant improvements

**Summary of any permit improvement conditions that have been completed within the year and the resulting environmental benefits.**

None

**Summary of any changes to the plant or operating techniques which required a variation to the permit and a summary of the resulting environmental impact.**

A variation to amend the carbon monoxide emission limit value from 30 minute averages to 10 minute averages and modernise and consolidate the permit was determined February 2018. There is no resulting environmental impact, 10 minute average assessment periods are a more suitable averaging period for waste incineration activities. No changes have been made to the plant processes.

**Summary of any other improvements made to the plant or planned to be made and a summary of the resulting environmental benefits.**

Every practicable opportunity to use the heat rejected at the steam condensers for beneficial local use is investigated. To date no cost effective or practicable options have become available. The site will continue to identify all possible opportunities, and investigate the practicalities of its installation. All viable developments will be implemented at the earliest opportunity.