Environment
rigency

# **Compliance Assessment**

Report ID: RDR/20130207/JP3132LH\_Dec\_mon thly\_Ash\_Annual\_reports

Re	port
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Name of site	Isle of Wight Energy Waste	gy from Operator/ permit holder	Waste Gas	Technology	UK Ltd	Permit ref no:	JP3132	2LH	
Officer	Helen Durrant	Date	7 February 2	2013	Area	a/office	Solent a	& South Downs/Roms	еу
Activity	1.1 A 1 (b) (iii)	Time in/out	3 hrs	Event typ	e:	Routine	🗌 In	cident response 🔀 C	ther
Assessmen	t type: Site insp	ection Audit	Check mor	nitoring/samp	oling 🔀	Report/d	ata revie	w Procedure revie	W
Site life stat	us: 🔀 Operation	al Pre-operatio	onal	Post-operation	onal				
What part(s	) of the permit were as	ssessed? Monitoring r	eturns and a	nnual repor	ts				
Complia	ance assessme	nt summary							
Key to comple	etion: A = Assessed/Ass NA = Not App	essed in part (no evidence dicable 1, 2, 3, 4 = CC	of non-compliand CS cat 1–4 breac	;e) h	ATL = Ap N = Not a	proach to l assessed	imit	Conditions breach	ed
a) Permitte	d activities	1 A							
b) Infrastrue	cture	1 N 2	N 3	Ν	4 N	5	Ν		
c) General	management	1 N 2	N 3	Ν	4 N				
d) Incident	management	1 N 2	N						
e) Emissior	าร	1 A 2	N 3	Ν	4 N	5	Α		
f) Amenity		1 N 2	N 3	Ν	4 N	5	Ν		
g) Monitorir maintena	ng and records, ance and reporting	1 A 2	N 3	Ν	4 A				
h) Resource	es efficiency	1 A 2	А						
The breacher compliance.	es indicated above ma . You should prevent a	ay constitute one or more any repetition of the brea	e offences. You Iches. Breache	I should take s of conditior	immediate	e action to ated abov	o rectify e re can res	each breach and return to sult in criminal prosecution	ons
and/or susp	ension or revocation on NB if there is a bre	of a permit.	owing will have	an 'x' placed	t in the box	as the in	itial enfo	prcement response.	
We will now	consider	At present we do not int	tend to prosect	ute you for th	e above of	fences.	This is	a site warning.	
what enforc is appropria	ement action	However, you are warne information comes to lig	ed that this ma pht.	y change if fu	urther relev	/ant	We ha	ve given you advice.	
Review of D	Directly Applicable Leg	islation: key: A = Assess	sed, N = Not as	sessed, NA	= Not Appl	icable, C1	I,C2,C3,0	C4 = CCS cat 1–4	N
Report deliv	verv method:	opy left on site	posted	Emailed		faxed	Date	7 February 2013	_
						landa	Dato		
<ul> <li>Comments</li> <li>Monitoring returns and annual reports, as required by permit conditions 3.6.1, 4.2.1 and 4.2.2, submitted as follows:</li> <li>1. Continuous emissions monitoring for emissions to air for December 2012. Results are compliant with permit emission limits. A dash (-) indicates that the plant was shut down.</li> <li>2. Bi-annual emissions monitoring. Results are compliant with the permit emission limits.</li> <li>3. Ash composition.</li> <li>4. Quarterly carbon in bottom ash. Results are compliant with Article 6.1 of the Waste Incineration Directive.</li> <li>5. Annual water usage, including specific water usage.</li> <li>6. Performance Indicators and annual trends.</li> <li>7. Annual Performance Report summarising plant activities and compliance during 2012.</li> <li>Amended continuous emissions monitoring reporting form template was issued to the operator to trial for December returns. The revised format is compatible with the Operators reporting software and the amended form has been adopted for future use by the operator. A final set of reporting forms is attached.</li> <li>A copy of this CAR form and your submission will be placed on the public registers.</li> </ul>									
Officer's	Signature					Recipier	nt's name	e or position within comp	any
	Amonipand					K Hardy	/		
Continu	uation sheet used	No No of pr	ages	C	CS record	number	N/A		
C SHARE									

#### Notes to the recipient

This compliance report form may highlight non-compliance with your permit or directly applicable legislation as observed by the Environment Agency officer.

This does not relieve the site operator of their responsibility to ensure that they comply with the permit and to prevent pollution of the environment. You are also reminded that:

- you should comply with the conditions of the permit at all times
- compliance with the permit does not remove your obligation to comply with other legislative provisions which may apply.

#### **Understanding the Compliance Assessment Summary**

a) Permitted activities	1	Specified by permit
b) Infrastructure	1	Engineering for prevention and control of emissions
	2	Closure and decommissioning
	3	Site drainage engineering (clean and foul)
	4	Containment of stored materials
	5	Plant and equipment
c) General management	1	Staff competency/training
	2	Management system and operating procedures
	3	Materials acceptance
	4	Storage, handling, labelling and segregation
d) Incident management	1	Site security
	2	Accident, emergency and incident planning
e) Emissions	1	Air
	2	Land and groundwater
	3	Surface water
	4	Sewer
	5	Waste
f) Amenity	1	Odour
	2	Noise
	3	Dust/fibres/particulates and litter
	4	Pests, birds and scavengers
	5	Deposits on road
g) Monitoring and records, maintenance and reporting	1 2	Monitoring of emissions and environment Records of activity, site diary/journal/ events
	3	Maintenance records
	4	Reporting and notification to the Environment Agency
h) Resource efficiency	1	Efficient use of raw materials
	2	Energy efficiency

The term 'permit' for the purposes of this form includes: licences, authorisations and consents.

#### Understanding your non-compliance scores

Non-compliance findings are classified using our published Compliance Classification Scheme, (CCS).

This scheme categorises breaches of permit conditions based on their potential for environmental impact as shown below. If you wish to discuss further any comments made by the officer on this form, contact your local area office or for more details of the CCS scheme, see the Environment Agency's website or contact your local office.

CCS category	Description	Score
1	A non-compliance which has a potentially <b>major</b> environmental effect	60
2	A non-compliance which has a potentially <b>significant</b> environmental effect	31
3	A non-compliance which has a potentially <b>minor</b> environmental effect	4
4	A non-compliance which has <b>no</b> potential environmental effect	1

#### **Corrective action**

We have various options to ensure that you correct actual or potential non-compliance. We may

- advise on corrective actions, verbally or in writing and require you to take specific actions, by letter or by issuing a notice.
- require you to review your procedures or management systems
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit is an offence, and we may take legal action:

- We will normally provide advice/guidance to assist operators back into compliance. However, other than for a very minor offence this will normally be in conjunction with another enforcement response.
- Where we have issued a written warning this does not preclude us from taking additional enforcement action if further relevant information comes to light. Such action includes the issue of a formal caution, taking a prosecution and/or the service of a notice.

We have published our Enforcement and Prosecution Policy which seeks to achieve a consistent approach to enforcement across all our regulated activities.

#### **Operational Risk Appraisal (Opra)**

Compliance assessment findings may affect your Opra score. This score determines your charge and affects the allocation of our resources to check your compliance with the permit.

#### Data protection notice

The Environment Agency is responsible for regulating environmental protection, flood defence, water resources and fisheries. It has a duty to discharge its functions to protect and enhance the environment and to promote conservation and recreation. The information provided will be processed by the Environment Agency to fulfill its regulatory and monitoring functions, and to maintain the relevant public register(s). The Environment Agency may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities, emergency services) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- r providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- r preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The Environment Agency may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

#### **Disclosure of information**

The Environment Agency will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of the assessment form indicating which information it concerns and why it should not be released, giving your reasons in full.

# Customer charter – What can I do if I disagree with the compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line manager, Area Environment Manager or Area Manager. If you wish to raise your dispute further, this can be done through our official Complaints and Commendations procedure phone our general enquiry number 08708 506506 (Mon to Fri 08.00–18.00) and ask for the Customer Contact team, alternatively you can send an email to enquiries@environment-agency.gov.uk. If, after following our Complaints and Commendations procedure, you are still dissatisfied, you can make a complaint to the Ombudsman. For advice on how to complain to the Parliamentary Ombudsman phone their helpline on 0345 015 4033.

## Operator: Waste Gas Technology UK Ltd

Installation: Isle of Wight Energy from Waste

Form Number: Agency Form / JP3132LH / A1 / Form dated 01/10/2006

# Reporting of Bi-Annual Monitored Emissions to Air, for the period 1<sup>st</sup> April 2012 to 30<sup>th</sup> September 12.

Emission Point	Substance / Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
A1	Cadmium & thallium and their compounds (total)	0.05mg/m <sup>3</sup>	<0.004	BS EN 14385	22/11/12, 14:20 to 14:52 & 15:03 to 15:35	MCERT	0.001
	Mercury and its compounds <sup>3</sup>	0.05mg/m <sup>3</sup>	<0.0006	BS EN 13211	22/11/12, 14:20 to 14:52 & 15:03 to 15:35	MCERT	0.0001
	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) <sup>3</sup>	0.5mg/m <sup>3</sup>	0.027	BS EN 14385	22/11/12, 14:20 to 14:52 & 15:03 to 15:35	MCERT	0.005
	Dioxins / furans (I-TEQ)	0.1ng/m <sup>3</sup>	0.027	BS EN 1948	21/11/12, 08:26 to 11:26 & 11:34 to 14:34	MCERT	0.006
	VOCs as Total Organic Carbon (TOC)	30 mg/m <sup>3</sup>	5.4	BS EN 12619	22/11/12, 12:30 to 13:30	MCERT	0.41
	Hydrogen chloride	90 mg/m <sup>3</sup>	2.8	BS EN 1911	21/11/12, 16:25 to 16:57 & 16:59 to 17:31	MCERT	0.40
	Hydrogen fluoride	6 mg/m <sup>3</sup>	<0.05	BS ISO 15713	22/11/12, 11:57 to 12:57	MCERT	0.01
	Carbon monoxide	225 mg/m <sup>3</sup>	3.2	BS EN 15058	22/11/12, 08:30 to 12:30	MCERT	2.0
	Sulphur dioxide	300 mg/m <sup>3</sup>	0.46	BS EN 14791	22/11/12, 09:45 to 10:45	MCERT	0.07
	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	600 mg/m <sup>3</sup>	84.5	BS EN 14792	22/11/12, 08:30 to 12:30	MCERT	6.8
	Dioxin-like PCBs (WHO-TEQ <sup>2</sup> Humans / Mammals)	n/a	0.00026 ng/m3	BS EN 1948	21/11/12, 08:26 to 11:26 & 11:34 to 14:34	MCERT	0.00005
	Dioxin-like PCBs (WHO-TEQ <sup>2</sup> Fish)	n/a	0.00001 ng/m3	BS EN 1948	21/11/12, 08:26 to 11:26 & 11:34 to 14:34	MCERT	0.000002

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	Dioxin-like PCBs (WHO-TEQ <sup>2</sup> Birds)	n/a	0.00054 ng/m3	BS EN 1948	21/11/12, 08:26 to 11:26 & 11:34 to 14:34	MCERT	0.00011
	Poly-cyclic aromatic hydrocarbons (PAHs)	n/a	0.44 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.09
-	Dioxins / furans (WHO- TEQ Humans / Mammals)	n/a	0.025 ng/m3	BS EN 1948	21/11/12, 08:26 to 11:26 & 11:34 to 14:34	MCERT	0.005
-	Dioxins / furans (WHO- TEQ Fish)	n/a	0.028 ng/m3	BS EN 1948	21/11/12, 08:26 to 11:26 & 11:34 to 14:34	MCERT	0.006
-	Dioxins / furans (WHO- TEQ Birds)	n/a	0.047 ng/m3	BS EN 1948	21/11/12, 08:26 to 11:26 & 11:34 to 14:34	MCERT	0.010
	Anthanthrene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Benzo{a}anthracene	n/a	0.005 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.001
	Benzo[b]fluoranthene	n/a	0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.00022
	Benzo[k]fluoranthene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Benzo[b]naph(2,1- d}thiophene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Benzo[c]phenanthrene	n/a	0.0095 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0019
	Benzo[ghi]perylene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Benzo[a]pyrene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Cholanthrene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Chrysene	n/a	0.004 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.001
	Cyclopenta(c,d)pyrene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Dibenzo[ah]anthracene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002
	Dibenzo[a,i]pyrene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 & 12:30 to 15:30	MCERT	0.0002

Fluoranthene	n/a	0.013 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 &	MCERT	0.003
				12:30 to 15:30		
Indo[1,2,3-cd]pyrene	n/a	<0.0011 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 &	MCERT	0.0002
				12:30 to 15:30		
Naphthalene	n/a	0.40 ug/m3	BS ISO 11338	21/11/12, 08:20 to 11:20 &	MCERT	0.0014
		_		12:30 to 15:30		
Total Particulate Matter	45 mg/m <sup>3</sup>	1.1	BS EN 13284-1	21/11/12, 16:25 to 16:57 &	MCERT	0.63
	-			16:59 to 17:31		

#### Signed Karl Hardy

Date 24.01.13

#### (Authorised to sign as representative of the Operator)

1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

2} Where an internationally recognised standard test method is used the reference number is given. Where another method is used that has been formally agreed with the Agency is used, and then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

3] For non-continuous measurements the date and time of the sample that produced the results is given. For continuous measurements the percentage of the process operating time covered by the result is given.

4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.

5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

6] Reference conditions for results stated are 273K, 101.3Pa, Dry Gas and 6% Oxygen.

7] Due to restricted Plant operations during the first year of operation, instructions given by the EA to carryout quarterly full emission analysis for the second year of operation.

 Permit Reference:
 JP3132LH
 Operator:
 Waste Gas Technology UK Ltd

 Installation:
 Isle of Wight Energy from Waste
 Form Number: Agency Form / JP3132LH / A2.1/ Form dated 07/11/2006

# Reporting of Bi-Annual Monitored Emissions to Air, for the period 1<sup>st</sup> April 2012 to 30<sup>th</sup> September 12.

PERIODIC (EXTRACTIVE) SAMPLING RESULTS									
	Dioxins, Furans*, and di	oxin-like PCBs ng/m <sup>3</sup>	Uncertainty	Limit	Sample Date				
Parameter	Congeners < LoD** assumed to be zero	Congeners < LoD** assumed to be at LoD	Error +/- %	ng/m³ I-TEQ					
<b>Dioxins and Furans</b>									
I-TEQ	0.027 ng/m3	0.027 ng/m3	0.006	0.1	21.11.12				
WHO-TEQ –	0.025 ng/m3	0.025 ng/m3	0.005	-	21.11.12				
Humans/Mammals									
WHO-TEQ - Birds	0.028 ng/m3	0.028 ng/m3	0.006	-	21.11.12				
WHO-TEQ - Fish	0.047 ng/m3	0.047 ng/m3	0.010	-	21.11.12				
PCBs									
WHO – TEQ –	0.00026 ng/m3	0.00026 ng/m3	0.00005	-	21.11.12				
Humans/Mammals									
WHO – TEQ – Birds	0.00054 ng/m3	0.00054 ng/m3	0.00011	-	21.11.12				
WHO – TEQ – Fish	0.00001 ng/m3	0.00001 ng/m3	0.000002	-	21.11.12				

Notes: \*Dioxins and furans include dioxin-like polychlorinated biphenyl congeners

\*\*LoD – limit of detection

Signed Karl Hardy

Date 24.01.13

Permit Reference: JP3132LH

**Operator: Waste Gas Technology UK Ltd** 

Installation: Isle of Wight Energy from Waste Form Number: Agency Form / JP3132LH / Ash1 / Form dated 07/11/2006

Ash /Char Composition (Metals, Dioxins, etc.)																			
	Cd	TI	Hg	Pb	Cr	Cu	Mn	Ni	As	Со	V	Zn	DI		DIOXIN	1		PCB	
	mg/ kg	mg/ kg	mg/ kg	mg/ kg	mg /	mg/ kg	O XI		W	ИО-ТЕ	Q ng/kg								
					kg								N I- TE Q ng/ kg	Humans/ mammals	Birds	Fish	Humans/ mammals	Birds	Fish
Bottom Ash and Char	4.4	<1.0	<1.0	1709	529	1901	620	228	6.9	125	41	1624		3.24	6.61	3.55	0.18	1.58	0.0 1
APC Residues	148	<1.0	152	2316	203	925	217	103	88	261	183	2007		12991	19173	13105	1596.5	2408.9	73.4
Bottom Ash and Char	Total	Carbo	n %																

Signed Karl Hardy

Date 20.12.12

Permit Reference: JP3132LH

Operator: Waste Gas Technology UK Ltd

Installation: Isle of Wight Energy from Waste Form Number: Agency Form / JP3132LH / Pi1 / Form dated 07/11/2006

## **Reporting of Performance Indicators for the year 2012**

Annual Production/Treatment								
Total RDF co-incinerated	16,047 Tonnes							
Total wood co-incinerated.	0 Tonnes							
Electrical energy exported	4,103,060 KWhrs							
Electrical energy used on installation	2,301,189 KWhrs							

## **Environmental Performance Indicators**

Parameter	Annual Average	Units
Electrical energy Imported to site	143 KWh / Tonne	KWhrs / tonne of solid waste co-incinerated (dry basis)
Gasoil consumption (total)	143,852	litres
Mass of Bottom Ash and Char produced	165 kg's / Tonne	kg/ tonne of waste solid co- incinerated (dry basis)
Mass of APC residues produced	57.2 kg's / Tonne	kg/ tonne of waste solid co- incinerated (dry basis)
Water consumption	2.89 m3 / Tonne	m <sup>3</sup> / tonne of solid waste co- incinerated (dry basis)

Trends	Trends in Environmental Performance									
Year	Year Parameter									
	Electrical energy Imported to site	Gasoil consumption	Mass of Bottom Ash and Char produced	Mass of APC residues produced	Water consumption					
2009	163	216,716	115	45	4.15					
	KWh/Tonne	litres	Kg's/Tonne	Kg/Tonne	m3/Tonne					
2010	167	342,046	128	53	2.97					
	KWh/Tonne	litres	Kg's/Tonne	Kg/Tonne	m3/Tonne					
2011	131	112,840	124	56.5	2.94					
	KWh/Tonne	litres	Kg's/Tonne	Kg/Tonne	m3/Tonne					
2012	143	143,852	165	57.2	2.89					
	KWh/Tonne	litres	Kg/Tonne	Kg/Tonne	m3/Tonne					

### Operator's Comments:

1. The figure used in the calculation of Electrical Energy Imported to site per tonne of solid waste co-incinerated, is that of 'Internal Electrical Usage', as the electrical power Imported to site would only be when the Plant is shutdown, as during normal operational periods, the Plant uses generated electrical power to provide its own operational requirements, with anything above that required value, being Exported to the National Grid.

- 2. Diesel oil is only used during warming-up and cooling-down of the Plant. When the Plant is operational under normal conditions, no diesel oil is utilised, as the Plant is self-sustaining in heat within the Furnaces.
- 3. The increase in production of bottom ash and char per tonne of waste is due primarily to a change in waste composition in 2012. Additional recycling at source resulted in a lower quality waste being processed into fuel for the Waste Gas operation.

Signed: Karl Hardy

Date: 15.01.13

Permit Reference: JP3132LH

#### Operator: Waste Gas Technology UK Ltd

Installation: Isle of Wight Energy from Waste

Form Number: Agency Form / JP3132LH / WU1 / Form dated 07/11/2006

## Reporting of Water Usage for the year 2012

Water Source	Usage (m³)	Specific Usage (m³/t)
Malaanstan	40,400,0	40.500
Mains water	46,406 m3	42,588 m3
Site borehole		
River abstraction		
TOTAL WATER USAGE	46,406 m3	

Trends in Water Usage							
Year	Parameter						
	Named	Named Total Water per unit					
	Water source	Water usage	output				
2008							
2009	Mains	51,564 m3	93.16 KW/m3				
2010	Mains	28,314 m3	122.81 KW/m3				
2011	Mains	59,365 m3	119.85 KW/m3				
2012	Mains	46,406 m3	129.46 kW/m3				
2012 <sup>3</sup>	Mains	46,406 m3	7.725 ltrs/kW				

#### Operator's comments :

1. The total water used on site for Process and Domestic usage, was 46,406 m3

2. The Specific Water Usage detailed above, was that for Cooling Tower evaporative losses of 42,588 m3

3. The previous year's data does not report water per unit of output as requested, instead reporting units of electrical output/m<sup>3</sup> of water consumed. Hence inclusion of both figures. It is proposed from 2013 to report the correct ltrs/kW.

Signed Karl Hardy

Date 15.01.13

(Authorised to sign as representative of the Operator)

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# DRAFT CEMS REPORTING FORMS 14 01 13

Permit Reference Number : JP3132LH

Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 14/01/13

### Reporting of Continuously Monitored Emissions to Air for Particulates (dust) for the month of December, 2012



Signed ......*Karl Hardy*..... (authorised to sign as representative of Operator)

Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 14/01/13

#### Reporting of Continuously Monitored Emissions to Air for Hydrogen Chloride for the month of December, 2012



Signed ......*Karl Hardy*..... (authorised to sign as representative of Operator)

Operator : Waste Gas Technology UK Ltd

Installation : Isle of Wight Energy from Waste

Form Number : S3 dated 14/01/13

### Reporting of Continuously Monitored Emissions to Air for TOC for the month of December, 2012



Signed ......*Karl Hardy*..... (authorised to sign as representative of Operator)

Operator : Waste Gas Technology UK Ltd

Installation : Isle of Wight Energy from Waste

Form Number : S3 dated 14/01/13

## Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide for the month of December, 2012



Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 14/01/13

#### **Reporting of Continuously Monitored Emissions to Air for Sulphur Dioxide for the month of December, 2012**



Signed ......*Karl Hardy*..... (authorised to sign as representative of Operator)

Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 14/01/13

### Reporting of Continuously Monitored Emissions to Air for Nitrogen Dioxide for the month of December, 2012



Permit Reference: JP3132LH

**Operator: Waste Gas Technology UK Ltd** 

Installation: Isle of Wight Energy from Waste Form Number: Agency Form / JP3132LH / Ash1 / Form dated 07/11/2006

Ash /Cha	r Con	npositi	on (M	letals,	Dioxir	ns, etc.	)												
	Cd	TI	Hg	Pb	Cr	Cu	Mn	Ni	As	Co	V	Zn	DIOXIN	DI	OXI	N		PCB	
	mg/	mg/	mg/	mg/	mg/	mg/	mg/	mg/	mg/	mg/	mg/	mg/	I-TEQ	WHO-TE			EQ ng/kg		
	кд	кд	кд	кg	кд	кд	кg	кд	кд	кд	кд	кg	пд/кд		1				1
														Humans/ mammal	Birds	Fish	Humans/ mammal	Birds	Fish
Bottom																			
Ash and																			
Char																			
APC																			
Residues																			
Bottom	Total Carbon % 1.0																		
Ash and																			
Char																			

Signed K. Hardy

Date 21.12.12

# Annual Performance Report for Waste Gas Technology (UK) Ltd Permit No. JP3132LH

This report is required under the Waste Incineration Directive Article 12(2):- requirements on access to information and public participation. This requires the operator of an incineration or co-incineration plant to produce an annual report to the regulator on the functioning and monitoring of the Plant and to make this available to the public. To satisfy the requirements of the directive, the following information is provided in this report.

# 1.0 Introduction

Name of Company	Waste Gas Technology (UK) Limited
Permit Number	JP3132LH
Name of Plant	Waste Gas Technology Limited
Address of Plant	Forest Road, Newport, Isle Of Wight PO30 5YS
Phone number	01983-825669
Further information	All municipal waste that is not recycled from the Isle Of Wight area, is co-incinerated at this Gasification Plant, providing a long term, sustainable solution for waste disposal in the area as part of the integrated approach to waste management on the Island, which achieves high levels of recycling and minimal disposal of waste to landfill.

# 2.0 Plant description

The main purpose of the activity carried out at this facility, is to co-incinerate Municipal Solid Waste (MSW), removing energy in the form of steam and generating electricity of 1.7 MW for the National Grid. The permit covers the site and the co-incineration process, which also includes reception of waste, storage and off site transfer of residues, emissions to water, air and land, recording and monitoring conditions.

# 3.0 Summary of Plant operation

The facility consists of a single co-incineration line, capable of processing approximately 4 tonnes of waste per hour, allowing for an average throughput of 30,000 tonnes per year, this being dependent on two main factors: actual operating hours (plant operations based on 7,500 hours per annum) and the Calorific Value of the waste being co-incinerated, the average Net Value being in the order of 12.1MJ/Kg. The shredded waste from the non-recyclable fraction is gasified in starved air conditions and the resultant syngas fully burnt in a combustor. A Heat Recovery Steam Generator captures the heat from the combustion to produce steam which drives a steam turbine and generator, the waste gases being cleaned before being released via a 27 metre chimney.

In early 2012, the Isle of Wight Council introduced kerbside material recycling facilities, encouraging all residents to participate. The initiative was well received with a significant reduction in collections of MSW for processing into Residual Derived Fuel (RDF). The short-fall in processed fuel available from purely MSW required additional Commercial and Industrial waste to be introduced into the re-processing facility, reducing the overall RDF quality. This impacted on WGT's operating availability and waste gasification rates during the first and middle half of the year, however, working closely with the waste provider, fuel quality improved during the 4<sup>th</sup> quarter of 2012 and availability and processing rates have increased.

Operating Hours	5,372	Hours
Total Waste Co-incinerated	16,047	Tonnes
Electricity Exported	4,103,060	KW/h
Grate Ash Produced	2,640	Tonnes
APC Residue produced	918	Tonnes

3.1 Plant operational details 2012:

Ash residues (Grate Ash/Bottom Ash) are currently sent to landfill.

Fine particle matter, Air Pollution Control (APC) residues, are removed from the flue gas stream by fabric filter and sent to specialised treatment works.

## 4.0 Summary of Plant Emissions

All emissions from the 27 metre high chimney are controlled to meet the emission limits included within the PPC Permit. The flue gases released into the atmosphere are continuously monitored for Particulate Matter, Total Organic Carbon (TOC), Hydrogen Chloride (HCL), Carbon Monoxide (CO), Sulphur Dioxide (SO2) and Oxides of Nitrogen.

The Plant completed its 6 monthly emissions monitoring programme in accordance with its Pollution Prevention Control operating permit, using a fully MCERTS certified external contractor. All emission results were within the Operating Permit limits except where detailed in Section 5 of this report. Future emissions monitoring programmes will remain in accordance with PPC requirements.

The Continuous Emission Monitoring (CEM) equipment was in service during 2012 for 100% of the plant operational time. This equipment is MCERTS approved and is stringently monitored and maintained with quarterly and bi-annual calibration checks being undertaken by MCERTS approved contractor/manufacturer.

Half-hourly, hourly and daily average emission data for continuously monitored emissions were supplied to the Environment Agency as per Operating Permit, on a monthly basis.

# 5.0 Summary of Plant compliance

Strict environmental controls and proven operating experience ensures that the facility is compliant with all conditions of its PPC Permit, as monitored by site Continuous Emission Monitors (CEM's). This is achieved through a fully automated process control system which constantly monitors all aspects of the co-incineration process. This, coupled with detailed operating procedures and fully trained staff, ensures that the plant is compliant against its Environmental Permit.

During 2012, no emission breaches were recorded or reported. Two noise complaints were made by local residents, both of which were fully investigated. Investigation and noise survey testing revealed an issue with tonal frequency from two new air blowers fitted as part of the abatement system upgrade. Immediate modifications were made to the air inlet ducts which resolved the tonal frequency change and reduced overall plant noise emission. No further complaints received post modification works.

The plant was not able to complete it's original proposed carbon reduction plan and reverting back to split Lime and Carbon reagent injection due to extended time needed in installing upgrade equipment and extended period of shutdown during the annual planned maintenance works. Carbon usage reduction and split reagent injection was actually achieved in November and all emission sample results during the reduction program were fully compliant. The plant has continued to operate with split reagent abatement since completion of the tests.

# 5.1 Table of Plant non-compliances:

Breach of Permit Conditions	None
Abnormal Operations	None

Enforcement Actions	None			
General Complaints	Two (Noise)			

No contamination and hence de-contamination has taken place within the site over the reporting period.

## 6.0 Plant Improvements

Waste Gas Technology Ltd reported the following Continuous Improvement Plans for 2012 operating year:

- 6.1 Originally Proposed Improvements for 2012:
  - Modifications to the Fuel Transport overhead crane, to improve reliability
  - Installation of a new design of Fuel Feed screw, to improve reliability
  - Modifications to the APC residue silo unloading system, to improve reliability
  - Modifications to both Lime and Carbon abatement metering, feed and transport systems, to both improve reliability and system flexibility, in delivering reagents in a more continuously measured stream.

All proposed improvements were completed in 2012.

- 6.2 Summary of Proposed Improvements for 2013:
  - Upgrade of Crane Grab to further improve reliability and improve electrical power efficiency.
  - Integrate Lime and Carbon abatement control system into the plant operating control system, allowing for closer control of feed rates.
  - Investigate potential for APC residues to divert from landfill to re-processing facility.
  - Investigate potential fan efficiency improvements on the main gasifier furnace.

# 7.0 Other Notices

As part of their regulatory responsibility, the Environment Agency inspector visits the facility on a regular basis, and issues the subsequent Compliance Assessment Report (CAR) Form on completion.

Name: Karl Hardy Position: Operations Manager Date: 10.01.13 Signed on behalf of the Company: *Karl Hardy* 

Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 7/2/13

#### Reporting of Continuously Monitored Emissions to Air for Particulates (dust) for the month of ......, 20\_\_\_



Signed .....

(authorised to sign as representative of Operator)

Date.....

Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 7/2/13

### Reporting of Continuously Monitored Emissions to Air for Hydrogen Chloride for the month of ....., 20\_\_\_



Signed .....

Date.....

Operator : Waste Gas Technology UK Ltd

Installation : Isle of Wight Energy from Waste

Form Number : S3 dated 7/2/13

Reporting of Continuously Monitored Emissions to Air for TOC for the month of ....., 20\_\_\_



Signed .....

Date.....

Operator : Waste Gas Technology UK Ltd

Installation : Isle of Wight Energy from Waste

Form Number : S3 dated 7/2/13

Reporting of Continuously Monitored Emissions to Air for Carbon Monoxide for the month of ....., 20\_\_\_



Signed .....

Date.....

Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 7/2/13

Reporting of Continuously Monitored Emissions to Air for Sulphur Dioxide for the month of .....20\_\_\_\_



Signed .....

Date.....

Installation : Isle of Wight Energy from Waste

Operator : Waste Gas Technology UK Ltd

Form Number : S3 dated 7/2/13

#### Reporting of Continuously Monitored Emissions to Air for Nitrogen Dioxide for the month of ......, 20\_\_\_



Signed .....

Date.....