

Permit Reference Number : BK0825UI

Operator : Riverside Resource Recovery Ltd

Installation : RIVERSIDE RESOURCE RECOVERY Form Number : BK0825UI / BIA

Date of Form: 15/01/17

Six-monthly Reporting of Emissions to Air for the period from October to December 2016

Emission Point	Substance / Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation / Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
	Particulate Matter	30 mg/m ³ over minimum 1 hour period		BS EN 13284-1		UKAS, MCERTS	
	Total Organic Carbon (TOC)	20 mg/m ³ over minimum 1 hour period		BS EN 12619		UKAS, MCERTS	
	Hydrogen chloride	60 mg/m ³ over minimum 1 hour period		BS EN 1911		UKAS, MCERTS	
	Hydrogen fluoride	4 mg/m ³ over minimum 1 hour period		US EPA 26/26A		UKAS, MCERTS	
	Carbon monoxide	100 mg/m ³ (average of ½-hour averages) over minimum 4 hour period		ISO12039		UKAS, MCERTS	
	Sulphur dioxide	200 mg/m ³ (average of ½-hour averages) over minimum 4 hour period		BS6069-4.4		UKAS, MCERTS	
	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/m ³ (average of ½-hour averages) over minimum 4 hour period		ISO 10849 or BS ISO 11564		UKAS, MCERTS	
	Ammonia (NH ₃)	No limit applies				UKAS, MCERTS	
	Nitrous oxide (N ₂ O)	No limit applies		VDI 2469-1 or VDI 2469-2		UKAS, MCERTS	
A1	Dioxins / furans (I-TEQ) ⁶	0.1 ng/m ³ over minimum 6 hour, maximum 8 hour period	0.0354	BS EN 1948	10:04 – 16:06 1st November 2016	UKAS, MCERTS	+/-0.0073
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.0022	BS EN 1948	10:04 – 16:06 1st November 2016	UKAS, MCERTS	+/-0.0010
A1	Dioxin-like PCBs (WHO-TEQ Fish) ⁶	No limit applies	0.0002	BS EN 1948	10:04 – 16:06 1st November 2016	UKAS, MCERTS	+/-0.0001
A1	Dioxin-like PCBs (WHO-TEQ Birds) ⁶	No limit applies	0.0063	BS EN 1948	10:04 – 16:06 1st November 2016	UKAS, MCERTS	+/-0.0028
A1	Dioxins / furans (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.0329	BS EN 1948	10:04 – 16:06 1st November 2016	UKAS, MCERTS	+/-0.0068
A1	Dioxins / furans (WHO-TEQ Fish) ⁶	No limit applies	0.0378	BS EN 1948	10:04 – 16:06 1st November 2016	UKAS, MCERTS	+/-0.0078
A1	Dioxins / furans (WHO-TEQ Birds) ⁶	No limit applies	0.0571	BS EN 1948	10:04 – 16:06 1st November 2016	UKAS, MCERTS	+/-0.0118

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Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
A1	Cadmium & thallium and their compounds (total)	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.001	BS EN 14385	12:14 – 14:16 4th November 2016	UKAS, MCERTS	+/-0.0010
A1	Mercury and its compounds	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.0005	BS EN 13211	12:14 – 14:16 4th November 2016	UKAS, MCERTS	+/-0.001
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.124	BS EN 14385	12:14 – 14:16 4th November 2016	UKAS, MCERTS	+/-0.025

[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 that has been formally agreed with the Agency is used, 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 result 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.

Signed  (authorised to sign as representative of Operator)

Date: 24/01/2017

Permit Reference Number : BK0825UI

Operator : Riverside Resource Recovery Ltd

Installation : RIVERSIDE RESOURCE RECOVERY Form Number : BK0825UI / BIA

Date of Form: 15/01/17

Six-monthly Reporting of Emissions to Air for the period from January to June 2016

Emission Point	Substance / Parameter	Emission Limit Value	Result [4]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
	Particulate Matter	30 mg/m ³ over minimum 1 hour period		BS EN 13284-1		UKAS, MCERTS	
	Total Organic Carbon (TOC)	20 mg/m ³ over minimum 1 hour period		BS EN 12619		UKAS, MCERTS	
	Hydrogen chloride	60 mg/m ³ over minimum 1 hour period		BS EN 1911		UKAS, MCERTS	
	Hydrogen fluoride	4 mg/m ³ over minimum 1 hour period		US EPA 26/26A		UKAS, MCERTS	
	Carbon monoxide	100 mg/m ³ (average of 1/2-hour averages) over minimum 4 hour period		ISO12039		UKAS, MCERTS	
	Sulphur dioxide	200 mg/m ³ (average of 1/2-hour averages) over minimum 4 hour period		BS6069-4.4		UKAS, MCERTS	
	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/m ³ (average of 1/2-hour averages) over minimum 4 hour period		ISO 10849 or BS ISO 11564		UKAS, MCERTS	
	Ammonia (NH ₃)	No limit applies				UKAS, MCERTS	
	Nitrous oxide (N ₂ O)	No limit applies		VDI 2469-1 or VDI 2469-2		UKAS, MCERTS	
A2	Dioxins / furans (I-TEQ) ⁶	0.1 ng/m ³ over minimum 6 hour, maximum 8 hour period	0.0087	BS EN 1948	09:18 – 15:22 2nd November 2016	UKAS, MCERTS	+/-0.0026
A2	Dioxin-like PCBs (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.0010	BS EN 1948	09:18 – 15:22 2nd November 2016	UKAS, MCERTS	+/-0.0005
A2	Dioxin-like PCBs (WHO-TEQ Fish) ⁶	No limit applies	0.0001	BS EN 1948	09:18 – 15:22 2nd November 2016	UKAS, MCERTS	0
A2	Dioxin-like PCBs (WHO-TEQ Birds) ⁶	No limit applies	0.0039	BS EN 1948	09:18 – 15:22 2nd November 2016	UKAS, MCERTS	+/-0.0018
A2	Dioxins / furans (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.0081	BS EN 1948	09:18 – 15:22 2nd November 2016	UKAS, MCERTS	+/-0.0024
A2	Dioxins / furans (WHO-TEQ Fish) ⁶	No limit applies	0.0094	BS EN 1948	09:18 – 15:22 2nd November 2016	UKAS, MCERTS	+/-0.0028
A2	Dioxins / furans (WHO-TEQ Birds) ⁶	No limit applies	0.0157	BS EN 1948	09:18 – 15:22 2nd November 2016	UKAS, MCERTS	+/-0.0047

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Date of Form: 15/01/17

Quarterly Reporting of Emissions to Air for the period from April to June 2016

Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation / Certification [4]	Uncertainty [5]
A2	Cadmium & thallium and their compounds (total)	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.001	BS EN 14385	10:01 – 12:04 4th November 2016	UKAS, MCERTS	+/-0.0010
A2	Mercury and its compounds	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.001	BS EN 13211	10:01 – 12:04 4th November 2016	UKAS, MCERTS	+/-0.001
A2	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.085	BS EN 14385	10:01 – 12:04 4th November 2016	UKAS, MCERTS	+/-0.019


[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 that has been formally agreed with the Agency is used, 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 result 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.

Signed  Date 24/01/2017
(authorised to sign as representative of Operator)

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Operator : Riverside Resource Recovery Ltd

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Date of Form: 15/01/17

Six-monthly Reporting of Emissions to Air for the period from January to June 2016

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
	Particulate Matter	30 mg/m ³ over minimum 1 hour period		BS EN 13284-1		UKAS, MCERTS	
	Total Organic Carbon (TOC)	20 mg/m ³ over minimum 1 hour period		BS EN 12619		UKAS, MCERTS	
	Hydrogen chloride	60 mg/m ³ over minimum 1 hour period		BS EN 1911		UKAS, MCERTS	
	Hydrogen fluoride	4 mg/m ³ over minimum 1 hour period		US EPA 26/26A		UKAS, MCERTS	
	Carbon monoxide	100 mg/m ³ (average of 1/2-hour averages) over minimum 4 hour period		ISO12039		UKAS, MCERTS	
	Sulphur dioxide	200 mg/m ³ (average of 1/2-hour averages) over minimum 4 hour period		BS6069-4.4		UKAS, MCERTS	
	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/m ³ (average of 1/2-hour averages) over minimum 4 hour period		ISO 10849 or BS ISO 11564		UKAS, MCERTS	
	Ammonia (NH ₃)	No limit applies				UKAS, MCERTS	
	Nitrous oxide (N ₂ O)	No limit applies		VDI 2469-1 or VDI 2469-2		UKAS, MCERTS	
A3	Dioxins / furans (I-TEQ) ⁶	0.1 ng/m ³ over minimum 6 hour, maximum 8 hour period	0.0062	BS EN 1948	09:07 – 15:10 3th November 2016	UKAS, MCERTS	+/-0.0020
A3	Dioxin-like PCBs (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.0009	BS EN 1948	09:07 – 15:10 3th November 2016	UKAS, MCERTS	+/-0.0005
A3	Dioxin-like PCBs (WHO-TEQ Fish) ⁶	No limit applies	0.0001	BS EN 1948	09:07 – 15:10 3th November 2016	UKAS, MCERTS	+/-0.0001
A3	Dioxin-like PCBs (WHO-TEQ Birds) ⁶	No limit applies	0.0049	BS EN 1948	09:07 – 15:10 3th November 2016	UKAS, MCERTS	+/-0.0024
A3	Dioxins / furans (WHO-TEQ Humans / Mammals) ⁶	No limit applies	0.0061	BS EN 1948	09:07 – 15:10 3th November 2016	UKAS, MCERTS	+/-0.0020
A3	Dioxins / furans (WHO-TEQ Fish) ⁶	No limit applies	0.0068	BS EN 1948	09:07 – 15:10 3th November 2016	UKAS, MCERTS	+/-0.0022
A3	Dioxins / furans (WHO-TEQ Birds) ⁶	No limit applies	0.0106	BS EN 1948	09:07 – 15:10 3th November 2016	UKAS, MCERTS	+/-0.0035

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Quarterly Reporting of Emissions to Air for the period from April to June 2016

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A3	Cadmium & thallium and their compounds (total)	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.0005	BS EN 14385	15:16 – 17:18 3th November 2016	UKAS, MCERTS	+/-0.0010
A3	Mercury and its compounds	0.05 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.001	BS EN 13211	15:16 – 17:18 3th November 2016	UKAS, MCERTS	+/-0.001
A3	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m ³ over minimum 30 minute, maximum 8 hour period	0.306	BS EN 14385	15:16 – 17:18 3th November 2016	UKAS, MCERTS	+/-0.054

[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 that has been formally agreed with the Agency is used, 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 result 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.

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Installation : RIVERSIDE RESOURCE RECOVERY Form Number : BK0825UI / PER

Date of Form: 15/01/17

Reporting of Performance Indicators for the year 2016

Annual Production/Treatment	
Waste incinerated	752839 Tonnes

Raw Materials Parameter	Tonnes used	Tonnes per tonne of waste incinerated
Mains water usage	114410	0.1520
Lime usage	8630.7	0.0115
Activated carbon usage	217.58	0.0003
Ammonia usage	699.99	0.0009

Energy Parameter	Primary Energy (MW)	MW per tonne of waste incinerated
Supplementary fuel usage ¹	245.18	0.0003
Electricity generated and used within the installation ¹	59691.69	0.0793
Electricity generated and exported from the installation ¹	528179.6	0.7016
Electricity imported into the installation ¹	567.77	0.0008
Steam exported from the installation ¹	0	0

Note 1: Conversion factor for delivered energy to primary energy to be agreed in writing

Waste Production Description	Disposal Route	Tonnes produced	Tonnes per tonne of waste incinerated
APC Residues	D05,D01, R05	18372.1	0.0244
Bottom Ash	R04	190246.38	0.2527
Other non-hazardous wastes	R04	1093.82	0.0015
Other hazardous waste	N/A		

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Date 24/01/2017

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Date of Form: 15/01/17

Ash Composition (TOC)		Month	
		October	November
Bottom Ash (Line 1)		0.72	0.97
Bottom Ash (Line 2)		0.91	0.82
Bottom Ash (Line 3)		0.65	0.72
			December
			0.72
			0.38
			0.67

Ash Composition (Metals, Dioxins, etc.)																	
	Sb mg/kg	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni Mg/kg	As mg/kg	Co mg/kg	V mg/kg	Zn Mg/kg	DIOXIN I-TEQ ng/kg	DIOXIN WHO-TEQ ng/kg		
															Humans/ mammals	Birds	Fish
Bottom Ash (Line 1)	74.8	7.78	0.4	<0.1	398	88	1060	891	58.4	6.68	14.3	12.7	1490	6.2	6.1	11	6.9
Bottom Ash (Line 2)	44.1	5.2	0.3	<0.1	324	64	1620	413	89.1	4.34	13	10	1570	4.6	4.7	8.3	5.1
Bottom Ash (Line 3)	43.8	34.4	0.3	<0.1	394	111	1310	428	86.9	13.5	24.1	16.2	4900	10	11	19	12
APC Residues (Line 1)	660	272.9	0.5	4.6	2312	63.3	442	395.1	21.6	30.8	7.5	7.3	14050	350	350	570	660
APC Residues (Line 2)	754.6	301.2	0.6	6.66	2349	57.8	468	392.5	22	37.7	7.6	7.0	14770	510	530	790	520
APC Residues (Line 3)	820.2	314	0.7	6.21	2655	67.2	536.8	510.1	23.9	45	9.2	9.0	16510	250	240	590	260

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Date 24/31/2017

Permit Reference Number : BK0825UI

Operator : Riverside Resource Recovery Ltd


Installation : RIVERSIDE RESOURCE RECOVERY Form Number : BK0825UI / ASS

Date of Form: 15/01/17

Reporting of Ash Solubility for the period from October to December 2016

Date of Test 04/11/16

Ash Solubility (Metals)											
	Cd mg/kg	Tl mg/kg	Hg mg/kg	Pb mg/kg	Cr mg/kg	Cu mg/kg	Mn mg/kg	Ni mg/kg	As mg/kg	Co mg/kg	Zn mg/kg
Bottom Ash (Line 1)											
Bottom Ash (Line 2)											
Bottom Ash (Line 3)											
APC Residues (Line 1)	0.0001	<0.001	0.0003	22.77	0.14	0.005	<0.002	0.007	0.008	0.005	0.884
APC Residues (Line 2)	<0.0001	0.003	0.0001	21.12	0.056	0.011	<0.002	0.007	0.008	0.005	1.056
APC Residues (Line 3)	0.0001	0.003	0.0006	29.4	0.109	0.019	<0.002	0.007	0.008	0.006	2.039

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