Permit Number: BT4885IT
UK Ltd

Operator: UPM-Kymmene

Facility: Shotton Paper Mill

Form Number: A9

Release Point: A13, A15 & A18 (when in use)

Time/Date of sampling: Not sampled

Discontinuous Measurement for the 3 months to 30th June 2014

Discontinuous Measurement Form						
Pollutant & release point	ELV (mg/m^3)	Measured value (mg/m^3)	Sampling method	Unit load (MW)	Monitoring Time & Date	Fuel used during sampling period
NOx - A13: Boiler Stack 1	450	196	BS EN 14792		Not running	
NOx - A15: Boiler Stack 3	150	93	BS EN 14792		Not running	
NOx - A18: Boiler Stack 6	150	149	BS EN 14792		Not running	

Please note: the measured value should be quoted at the appropriate reference conditions for the type of equipment being subject to emissions monitoring – see Schedule 7.

Signed [signature] Date 31 July 2014 (Authorised to sign as representative of Operator)

Previous quarter's results

Permit Number: BT4885IT

Operator: UPM-Kymmene UK Ltd

Facility: Shotton Paper Mill

Form Number: A1

Reporting of periodically monitored emissions to air for the period from 01/01/14 to 31/06/2014

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A20	Hydrogen fluoride	2 mg/m^3	Periodic over minimum 1-hour period	0.24	BS ISO 15713	11:00 – 12:00 6th May 2014	12.1
A20	Nitrous Oxide (N_2O)	No limit applies	Periodic over minimum 1-hour period	0.28	FTIR	10:00 – 12:00 8th May 2014	84.9
A20	Cadmium & thallium and their compounds (total)	0.05 mg/m^3	over minimum 30 minute, maximum 8 hour period	0.006	BS EN 14385	11:31 – 12:35 6th May 2014	25.2
A20	Mercury and its compounds	0.05 mg/m^3	over minimum 30 minute, maximum 8 hour period	0.0005	BS EN 13211	11:31 – 12:35 6th May 2014	25.2
A20	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	0.41	BS EN 14385	11:31 – 12:35 6th May 2014	25.2
A20	Dioxins / Furans (I-TEQ)	0.1 ng/m^3	over minimum 6 hour period, maximum 8 hour period	0.0007	BS EN 1948 Parts 1, 2 and 3	08:30 – 14:45 7th May 2014	15.3
A20	Dioxin like PCBs (WHO-TEQ Humans / Mammals) (5)	No limit applies	-	0.00005	BS EN 1948 Parts 1, 2 and 3	08:30 – 14:45 7th May 2014	8.1
A20	Dioxin like PCBs (WHO-TEQ Fish)	No limit applies	-	0.00001	BS EN 1948 Parts 1, 2 and 3	08:30 – 14:45 7th May 2014	8.1
A20	Dioxin like PCBs (WHO-TEQ Birds) (5)	No limit applies	-	0.0007	BS EN 1948 Parts 1, 2 and 3	08:30 – 14:45 7th May 2014	8.1
A20	Dioxins / Furans (WHO – TEQ Humans / Mammals) (5)	No limit applies	-	0.0007	BS EN 1948 Parts 1, 2 and 3	08:30 – 14:45 7th May 2014	15.3
A20	Dioxins / Furans (WHO – TEQ Fish)	No limit applies	-	0.0007	BS EN 1948 Parts 1, 2 and 3	08:30 – 14:45 7th May 2014	15.3
A20	Dioxins / Furans (WHO – TEQ Birds)	No limit applies	-	0.0012	BS EN 1948 Parts 1, 2 and 3	08:30 – 14:45 7th May 2014	15.3

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method	Result Date and Time [2]	Uncertainty [3]
A20	Poly-cyclic aromatic hydrocarbons (PAHs) Total	No limit applies	-	0.05	BS ISO 11338-1 & BS ISO 11338-2	08:07- 14:25 8th May 2014	15.3
A20	Anthanthrene	No limit applies	-	0.0006	BS ISO 11338-1 & BS ISO 11338-2	08:07- 14:25 8th May 2014	15.3
A20	Benzo(a)anthracene	No limit applies	-	0.0006			15.3
A20	Benzo(b)fluoranthene	No limit applies	-	0.0006			15.3
A20	Benzo(k)fluoranthene	No limit applies	-	0.0006			15.3
A20	Benzo(b)naph(2,1-d)thiophene	No limit applies	-	0.0006			15.3
A20	Benzo(c)phenanthrene	No limit applies	-	0.0006			15.3
A20	Benzo(ghi)perylene	No limit applies	-	0.0006			15.3
A20	Benzo(a)pyrene	No limit applies	-	0.0006			15.3
A20	Cholanthrene	No limit applies	-	0.0006			15.3
A20	Chrysene	No limit applies	-	0.0006			15.3
A20	Cyclopenta(c,d)pyrene	No limit applies	-	0.0006			15.3
A20	Dibenzo(ah)anthracene	No limit applies	-	0.0006			15.3
A20	Dibenzo(ai)pyrene	No limit applies	-	0.0006			15.3
A20	Fluoranthene	No limit applies	-	0.0006			15.3
A20	Indo[1,2,3-cd]pyrene	No limit applies	-	0.0006			15.3
A20	Naphthalene	No limit applies	-	0.04			15.3

[1] For dioxins and dioxin-like PCBs, the result are to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum

[2] The date and time of the sample that produced the result is given.

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

Signed  Date 31 July 2014 (Authorised to sign as representative of Operator)

CEMS INVALIDATION LOG

The CEMS invalidation log is used to record periods when the CEMS system has been unavailable and/or the data from it could be classed as inaccurate.

Period which log covers: 01/01/2014 to 30/06/2014

DOWNTIME: FROM	DOWNTIME: TO	DOWNTIME DURATION	REASON	CORRECTIVE ACTION
2nd April	3rd April	2.5 hours	CEMS PC hard drive failure	Root cause analysis opened to investigate in detail
16th April	16th April	4.0	CEMS maintenance	NA

Comments:
Analysis of CEM's results for this period showed:

April
5 half hour invalid results on 2nd/3rd April.
This was due to a failure of the hard drive on the CEMS PC. A Root cause analysis was opened to allow this failure to be analysed in detail.

On 16th April a service was carried out on the CEMS system in preparation for the AST. System was offline for 4 hours.

Signed  Date 31 July 2014 (Authorised to sign as representative of Operator)

Permit Number: BT4885IT
UK Ltd

Operator: UPM-Kymmene

Facility: Shotton Paper Mill

Form Number: Performance 2

Reporting of other performance indicators for the period 01/04/2014 **to** 30/06/2014

Parameter	Units
BOD/ADT	0.07 Kg/ADT
Suspended Solids/ADT	0.121 Kg/ADT
Ammoniacal Nitrogen/ADT	0.002 Kg/ADT
Total Phosphorus/ADT	0.011 Kg/ADT
NOx/ADT	$0.798.1x10^{-3}$ Tonnes/ADT
CO_2/ADT	0.0525 Tonnes/ADT
Total MRF materials accepted for sorting	53865 Tonnes
Total MRF facility throughput	52056 Tonnes
Total MRF material sent for recycling off site	7381 Tonnes
Total MRF material utilised on site for newsprint production	14080 Tonnes
Total MRF material sent off site for disposal	1575 Tonnes

Operator's comments :

Signed Date 31 July 2014 (Authorised to sign as representative of Operator)

Permit Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : Residue 1

Reporting of residue quality for the period from .....1st April 2014.....to .....30th June 2014.....

Ash Composition (TOC/LOI)		
	LOI (%)	% Carbon (TOC) $^{w}/_{w}$
Bottom Ash	0.2	*

- At least one of LOI or TOC to be reported.
-

Ash Composition (Metals, Dioxins, etc.)																
	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 /	Birds	Fish
Bottom Ash	0.41	0.1	0.11	115.4	228.8	1534	1115	141.3	55.8	8.2	24.6	566.2	0.282	0.221	0.2261	0.402
APC Residues	3.68	0.2	0.39	546.3	100.5	611.7	528.6	49.5	26.1	11.2	25.7	1174	34.58	32.57	32.97	95.52

Signed  Date 31 July 2014 (Authorised to sign as representative of Operator)

Permit Reference Number : BT4885IT

Operator : UPM-Kymmene UK Ltd

Facility : Shotton Paper Mill

Form Number : S1

Reporting of Emissions to Sewer for the period from 01 April 2014 to 31 June 2014

Note 1
Blockage of pH probe on boiler scrubber water system resulted in lack of caustic being added to the scrubber water hence the low pH reading. Probe unblocked and system put back online.

Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Test Method	Sample Date and Times [2]	Uncertainty [3]
E1	Volumetric Flow	300m^3/day 24 hour period beginning 00:01	146m^3/da	BS3680	Avg flow 5.983m^3/hr over a 3 month period, equating to 146m^3/day	
E1	pH	6(min) Instantaneous	4.8 Note 1	BS 1647-2:1984	17/04/14	
E1	pH	9(max) Instantaneous	8.78	BS 1647-2:1984	09/05/14	
E1	Total suspended solids as defined by Directive 91/271/EEC	30mg/l for 95% of all measured values of periodic or flow proportional samples taken over one year. [1]	7.7	BS EN 872		
E1	Total suspended solids as defined by Directive 91/271/EEC	45mg/l periodic sample[1]	36	BS EN 872	5/5/14	*9.2%*
E1	Mercury and its compounds, expressed as mercury (Hg)	0.03 mg/l 24-hour flow proportional sample	0.0063	BS EN 1483	08:45 14th April 2014	*5.7%*
E1	Cadmium and its compounds, expressed as cadmium (Cd)	0.05 mg/l 24-hour flow proportional sample	0.0006	BS 6068-2.89	08:45 14th April 2014	*4.8%*
E1	Thallium and its compounds, expressed as thallium (Tl)	0.05 mg/l 24-hour flow proportional sample	0.001	BS 6068-2.89	08:45 14th April 2014	*2.5%*

Emission Point	Substance / Parameter	Emission Limit Value	Result [1]	Test Method	Sample Date and Times [2]	Uncertainty [3]
E1	Arsenic and its compounds, expressed as arsenic (As)	0.15 mg/l 24-hour flow proportional sample	0.014	BS 6068-2.60	08:50 17th June 2014	*4.8%*
E1	Lead and its compounds, expressed as lead (Pb)	0.2 mg/l 24-hour flow proportional sample	0.02	BS 6068-2.60	08:45 14th April 2014	*3.6%*
E1	Chromium and its compounds, expressed as chromium (Cr)	0.5 mg/l 24-hour flow proportional sample	0.049	BS 6068-2.60	08:50 17th June 2014	*5.6%*
E1	Copper and its compounds, expressed as copper (Cu)	0.5 mg/l 24-hour flow proportional sample	0.009	BS 6068-2.60	08:45 14th April 2014	*4.2%*
E1	Nickel and its compounds, expressed as nickel (Ni)	0.5 mg/l 24-hour flow proportional sample	0.012	BS 6068-2.60	08:45 14th April 2014	*3.6%*
E1	Zinc and its compounds, expressed as Zinc (Zn)	1.5 mg/l 24-hour flow proportional sample	0.072	BS 6068-2.60	08:45 14th April 2014	*5.9%*
E1	Dioxins / Furans (I-TEQ)	0.3 ng/l – at least one measurement every six months	0.000	BS ISO 18703	9:00 14th May	*15%*

1. The result given is the maximum value obtained during the reporting period, expressed in the same terms as the emission limit value.
2. The date and time of measurements and the percentage of the process operating time covered by the result shall be given.
3. The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed  Date 31 July 2014 (Authorised to sign as representative of Operator)

Permit Number: BT4885IT
UK Ltd

Operator: UPM-Kymmene

Facility: Shotton Paper Mill

Form Number: W1

Reporting of emissions to water (other than to sewer) for the quarter from 01/04/2014 **to** 30/06/2014

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
W1	BOD	25 mg/l	Weekly	43mg/l	BS EN 1899-1 (1998)	09.05.14 09:00	
W1	Total suspended solids	60 mg/l	Weekly. For 95% of all measured values of periodic samples taken over one month	42mg/l	BS EN 872	07.05.14 07:00	
W1	pH max	9	Instantaneous	7.968	BS6068-2.50	18.04.14 01:45	
W1	pH min	6	Instantaneous	7.35	BS6068-2.50	01.06.14 16:05	
W1	COD	-	Spot	360mg/l		09.05.14 07:00	
W1	Ammoniacal Nitrogen	4 mg/l	Spot	1.874mg/l		08.06.14 07:00	
W1	Temperature degrees Celsius	25° Celsius	Continuous	24.8 ° Celsius		17.05.14 16:20	
W1	Total Phosphorus	-	Spot	1.9 mg/l		08:50 28.04.14	
W1	Maximum instantaneous Flow rate	800 l/s	24 hour period beginning 00:01	699 l/s		Several data points	

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
W1	Maximum Daily Flow	22,000 m^3/day	Instantaneous	17,380m^3/day		17.06.14	
W1	Maximum Tidal Flow	11,000 m^3/tide	Instantaneous	7975 m^3/tide		13.05.14	
W1	Cd (µg/m^3)	-		100 µg/m^3		08:50 28.04.14	
W1	Hg (µg/m^3)	-		100 µg/m^3		08:50 28.04.14	
W1	Fe (mg/m^3)	-		200.0 mg/m^3		08:50 28.04.14	
W1	Mn (mg/m^3)	-		84.0 mg/m^3		08:50 28.04.14	
W1	Zn (mg/m^3)	-		13.0 mg/m^3		08:50 28.04.14	
W1	As (mg/m^3)	-		6.0 mg/m^3		08:50 28.04.14	
W1	Cu (mg/m^3)	-		2.0 mg/m^3		08:50 28.04.14	
W1	Cr (mg/m^3)	-		11.0 mg/m^3		08:50 28.04.14	
W1	Ni (mg/m^3)	-		5.0 mg/m^3		08:50 28.04.14	
W1	Pb (mg/m^3)	-		2.0 mg/m^3		08:50 28.04.14	

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.
Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
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.
The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed  Date 31 July 2014 (Authorised to sign as representative of Operator)