

RECEIVED
08 AUG 2013

Permit Number: BT4885IT
UK Ltd

Facility: Shotton Paper Mill

Release Point: A13, A15 & A18 (when in use) Time/Date of sampling: Not in operation, not sampled

Operator: UPM-Kymmene
Form Number: A9

Discontinuous Measurement for the 3 months to 30 June 2013

Discontinuous Measurement Form				Fuel used during sampling period	
Pollutant & release point	ELV (mg/m ³)	Measured value (mg/m ³)	Sampling method	Unit load (MW)	
NOx - A13: Boiler Stack 1	450				Not in operation, not sampled
NOx - A15: Boiler Stack 3	150				Not in operation, not sampled
NOx - A18: Boiler Stack 6	150				Not in operation, not sampled

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  Date 08/08/2013 (Authorised to sign as representative of Operator)

MONITORING RETURNS N. WAL-S

CHECKED BY AUTHORIZATION
INITIALS DATE
J6 12-8-13
J6 12-8-13
EDM

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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Figure 1. The study area.

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Permit Number: BT48851T
Facility: Shotton Paper Mill

Operator: UPM-Kymmene UK Ltd
Form Number: A1



Reporting of periodically monitored emissions to air for the period from 01/01/2013 to 30/06/2013

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	<0.04	BS ISO 15713	14/2/13 @ 09:07 – 10:07	0.01
A20	Nitrous Oxide (N ₂ O)	No limit applies	Periodic over minimum 1-hour period	0.71	FTIR	15/2/13 @ 11:00 – 12:00	1.4
A20	Cadmium & thallium and their compounds (total)	0.05 mg/m ³	over minimum 30 minute, maximum 8 hour period	<0.003	BS EN 14385	14/2/13 @ 14:50 – 15:59	0.0004
A20	Mercury and its compounds	0.05 mg/m ³	over minimum 30 minute, maximum 8 hour period	<0.0003	BS EN 13211	14/2/13 @ 14:50 – 15:59	0.00004
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	0.03	BS EN 14385	14/2/13 @ 14:50 – 15:59	0.004
A20	Dioxins / Furans (I-TEQ)	0.1 ng/m ³	over minimum 6 hour period, maximum 8 hour period	0.002	BS EN 1948 Parts 1, 2 and 3	14/2/13 @ 08:08 – 14:29	0.0004
A20	Dioxin like PCBs (WHO-TEQ Humans / Mammals) (5)	No limit applies	-	0.0001	BS EN 1948 Parts 1, 2 and 3	14/2/13 @ 08:08 – 14:29	0.00002
A20	Dioxin like PCBs (WHO-TEQ Fish)	No limit applies	-	0.00001	BS EN 1948 Parts 1, 2 and 3	14/2/13 @ 08:08 – 14:29	0.000002
A20	Dioxin like PCBs (WHO-TEQ Birds) (5)	No limit applies	-	0.001	BS EN 1948 Parts 1, 2 and 3	14/2/13 @ 08:08 – 14:29	0.0002
A20	Dioxins / Furans (WHO-TEQ Humans / Mammals) (5)	No limit applies	-	0.002	BS EN 1948 Parts 1, 2 and 3	14/2/13 @ 08:08 – 14:29	0.0004
A20	Dioxins / Furans (WHO-TEQ Fish)	No limit applies	-	0.002	BS EN 1948 Parts 1, 2 and 3	14/2/13 @ 08:08 – 14:29	0.0004
A20	Dioxins / Furans (WHO-TEQ Birds)	No limit applies	-	0.003	BS EN 1948 Parts 1, 2 and 3	14/2/13 @ 08:08 – 14:29	0.0006
A20	Poly-cyclic aromatic hydrocarbons (PAHs) Total	No limit applies	-	0.408	BS ISO 11338-1 & BS ISO 11338-2	15/2/13 @ 08:44 – 14:06	0.08
A20	Anthracene	No limit applies	-	<0.001		15/2/13 @ 08:44 – 14:06	0.0002

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result ^[1]	Test Method	Result Date and Time ^[2]	Uncertainty ^[3]
A20	Benzo(a)anthracene	No limit applies µg/m³	-	0.002	BS ISO 11338-1 & BS ISO 11338-2	15/2/13 @ 08:44 - 14:06	0.0004
A20	Benzo(b)fluoranthene	No limit applies µg/m³	-	0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Benzo(k)fluoranthene	No limit applies µg/m³	-	<0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Benzo(b)naph(2,1-d)thiophene	No limit applies µg/m³	-	<0.01		15/2/13 @ 08:44 - 14:06	0.002
A20	Benzo(c)phenanthrene	No limit applies µg/m³	-	0.001		15/2/13 @ 08:44 - 14:06	0.0003
A20	Benzo(ghi)perylene	No limit applies µg/m³	-	<0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Benzo(a)pyrene	No limit applies µg/m³	-	<0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Cholanthrene	No limit applies µg/m³	-	0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Chrysene	No limit applies µg/m³	-	0.099		15/2/13 @ 08:44 - 14:06	0.02
A20	Cyclopenta(c,d)pyrene	No limit applies µg/m³	-	<0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Dibenzo(ah)anthracene	No limit applies µg/m³	-	<0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Dibenzo(a)pyrene	No limit applies µg/m³	-	<0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Fluoranthene	No limit applies µg/m³	-	0.03		15/2/13 @ 08:44 - 14:06	0.006
A20	Indol(1,2,3-cd)pyrene	No limit applies µg/m³	-	<0.001		15/2/13 @ 08:44 - 14:06	0.0002
A20	Naphthalene	No limit applies µg/m³	-	0.36		15/2/13 @ 08:44 - 14:06	0.07

- [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 08/08/2013

(Authorised to sign as representative of Operator)

Permit Number: BT4885IT
Facility: Shotton Paper Mill

Operator: UPM-Kymmene UK Ltd
Form Number: W1

Reporting of emissions to water (other than to sewer) for the quarter from 01/04/2013 to 30/06/2013



Emission Point	Substance / Parameter	Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
W1	BOD	25 mg/l	Weekly	10	BS EN 1899-1 (1998)	29/05 09:00	
W1	Total suspended solids	60 mg/l	Weekly. For 95% of all measured values of periodic samples taken over one month	31	BS EN 872	18/04 07:00	
W1	pH max	9	Instantaneous	7.96	BS6068-2.50	04/06 20:55	
W1	pH min	6	Instantaneous	7.50	BS6068-2.50	02/05 12:40	
W1	COD	-	Spot	182		14/05 07:00	
W1	Ammoniacal Nitrogen	4 mg/l	Spot	0.918		21/05/19:00	
W1	Temperature degrees Celsius	25° Celsius	Continuous	23.1		08/06 13:45	
W1	Total Phosphorus	-	Spot	1.3 mg/l		20/05	
W1	Maximum instantaneous Flow rate	800 l/s	24 hour period beginning 00:01	683		3/6 21:05 5/6 22:50	
W1	Maximum Daily Flow	22,000 m ³ /day	Instantaneous	15930		06/05	
W1	Maximum Tidal Flow	11,000 m ³ /tide	Instantaneous	8941		13/06	
W1	Cd (µg/m ³)	-		0.1			
W1	Hg (µg/m ³)	-		0.1			
W1	Fe (mg/m ³)	-		0.18			
W1	Mn (mg/m ³)	-		0.029			
W1	Zn (mg/m ³)	-		0.017			

Emission		Emission		Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
Emission Point	Substance / Parameter	Limit Value						
W1	As (mg/m ³)	-			0.007			
W1	Cu (mg/m ³)	-			0.001			
W1	Cr (mg/m ³)	-			0.006			
W1	Ni (mg/m ³)	-			0.005			
W1	Pb (mg/m ³)	-			0.001			

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 08/08/2013

(Authorised to sign as representative of Operator)

Permit Reference Number : BT48851T

Facility : Shotton Paper Mill

Operator : UPM-Kymmene UK Ltd

Form Number : S1

Reporting of Emissions to Sewer for the period from 1 April 2013 to 30 June 2013

08 AUG 2013

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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	151	BS3680		
E1	pH	6(min) Instantaneous <i>no limit</i>	7.4	BS 1647-2:1984		
E1	pH	9(max) Instantaneous <i>no limit</i>	12.94	BS 1647-2:1984		
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	5.2	BS EN 872	Daily	
E1	Total suspended solids as defined by Directive 91/271/EEC	45mg/l periodic sample ¹	5.2	BS EN 872		
E1	Mercury and its compounds, expressed as mercury (Hg)	0.03 mg/l 24-hour flow proportional sample	0.0006	BS EN 1483	10/05/13	10%
E1	Cadmium and its compounds, expressed as cadmium (Cd)	0.05 mg/l 24-hour flow proportional sample	0.0001	BS 6068-2.89	10/05/13	10%
E1	Thallium and its compounds, expressed as thallium (Tl)	0.05 mg/l 24-hour flow proportional sample	0.001	BS 6068-2.89	10/05/13	10%
E1	Arsenic and its compounds, expressed as arsenic (As)	0.15 mg/l 24-hour flow proportional sample	0.018	BS 6068-2.60	10/05/13	10%
E1	Lead and its compounds, expressed as lead (Pb)	0.2 mg/l 24-hour flow proportional sample	0.0075	BS 6068-2.60	10/05/13	10%
E1	Chromium and its compounds, expressed as chromium (Cr)	0.5 mg/l 24-hour flow proportional sample	0.029	BS 6068-2.60	10/05/13	10%
E1	Copper and its compounds, expressed as copper (Cu)	0.5 mg/l 24-hour flow proportional sample	0.0315	BS 6068-2.60	10/05/13	10%
E1	Nickel and its compounds, expressed as nickel (Ni)	0.5 mg/l 24-hour flow proportional sample	0.0025	BS 6068-2.60	10/05/13	10%
E1	Zinc and its compounds, expressed as Zinc (Zn)	1.5 mg/l 24-hour flow proportional sample	0.0155	BS 6068-2.60	10/05/13	10%
E1	Dioxins / Furans (I-TEQ)	0.3 ng/l – at least one measurement every six months	0.035	BS ISO 18703	10/05/13	25%

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

Signed

[Signature]

Date 08/08/2013

(Authorised to sign as representative of Operator)

Permit Number : BT48851T
Ltd

Facility : Shotton Paper Mill

Operator : UPM-Kymmene UK

Form Number : Residue 1

Reporting of residue quality for the period from 1st April 2013 to 30th June 2013

Ash Composition (TOC/LOI)

	LOI (%)	% Carbon (TOC) ^{w/w}
Bottom Ash	*0.15	*

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

Ash Composition (Metals, Dioxins, etc.)

	Cd mg/ kg	Ti 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	Fish
Bottom Ash	0.12	0.1	0.1	49.1	20.2	379.8	114.7	8.8	9.1	2.5	8.8	422.9	0.089	0.058	0.15	0.078
APC																
Residues	10.5	0.1	0.1	25.6	19.6	213	81.3	6.4	10.5	1.8	4.9	356	13	17	18	16

Signed

Date 08/08/2013

(Authorised to sign as representative of Operator)



Permit Number: BT48851T
UK Ltd

Facility: Shotton Paper Mill

Reporting of other performance indicators for the period 01/04/2013 to 30/06/2013

Operator:

Form Number:

Performance 2

UPM-Kymmene



Parameter	Units	
BOD/ADT	0.04	Kg/ADT
Suspended Solids/ADT	0.089	Kg/ADT
Ammoniacal Nitrogen/ADT	0.002	Kg/ADT
Total Phosphorus/ADT	0.007	Kg/ADT
NOx/ADT	4.45 x 10 ⁻⁴	Tonnes/ADT
CO ₂ /ADT	0.094	Tonnes/ADT
Total MRF materials accepted for sorting	46657	Tonnes
Total MRF facility throughput	45411	Tonnes
Total MRF material sent for recycling off site	31080	Tonnes
Total MRF material utilised on site for newsprint production	12800	Tonnes
Total MRF material sent off site for disposal	1575	Tonnes

Operator's comments :

Signed

Date 08/08/2013

(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: 01/01/2013 to 30/06/2013

DOWNTIME: FROM	DOWNTIME: TO	REASON	CORRECTIVE ACTION
None	None	NA	NA

Comments:

Analysis of CEM's results for this period showed only 1 invalid result.
This showed on the TOC results on the 17th January.

Signed 

Date 08/08/2013

(Authorised to sign as representative of Operator)

