

Received 19/12/13

what is BAT.

Consolidated Permit PP3834CB

IC1 The Operator shall conduct commissioning trials and monitoring to demonstrate that the new equipment is operating as expected and in accordance with BAT. Monitoring of emission points B7, B14, B26, B18 and B24 shall include but not be exclusive to, lead (vapour and particulate), particulate matter and total volatile organic compounds (as carbon). The operator shall use monitoring standards as required by condition 3.3.3. The operator shall submit a report detailing the outcome of the commissioning trials and monitoring to NRW. The report shall include, but not exclusive to, the results of monitoring, and any measures required to optimise these units.

CAR report dated 16/10/13

IC 1 – Operator to assess the results.

The table below tabulates the results that were entered into an H1 assessment which has been submitted to the EA (now NRW) in July 2012.

	Lead mg/m3	Particulates PM10 24hr mean mg/m3	Ethylene glycol mg/m3
* B6	0.2868	(3) 10.7	~
* B7	0.2525	(2) 6.8	~
B14	0.1	4.1	5.8
B18	0.004	6.1	~
* B24	0.5541	(2) 2.5	~
B26	0.22	1.4	

Lead = BS EN 14385:2004 UKAS MCERTS

Particulates = BS EN 13284:2002 UKAS MCERTS

VOC's = BS EN 13526 : 2001 UKAS MCERTS

Particulates detailed as both 24hr mean and annual mean

Operating mode is not 100%, but this has been entered as requested initially

Some input values have been doubled etc from the measured values to take into account the number of kilns operating on that emission point at time of measurement

The same data has been inputted into long term & short term effects sections

Data for the H1 assessment was taken from the following reports:-

Data for Release Points 1 - 12 & 16 - 19 ex Environmental Evaluation Report No 54666, carried out 20/2/12 - 02/03/12 sent to the EA (now NRW)

Data for Release Points 13 - 15 ex Environmental Evaluation Report No 50375 carried out October 2011

As you can see from an e-mail below, the H1 assessment was submitted to the EA (now NRW) and a response was awaited by my predecessor Steve Swygart as to whether this improvement condition had been met.

From: Dickson, John [mailto:john.dickson@environment-agency.wales.gov.uk]

Sent: 18 September 2012 15:47

To: Steven Swygart

Cc: Adamson, Jane

Subject: EPR/PP3834CB/V002 - LT 16110- Morgan Technical Ceramics Ltd- Ruabon Electroceramics –

Operator comments (Steve Swygarts comments).

IC1 : data for all of the emission points mentioned in this requirement was submitted as part of a H1, which was supplied to the EA recently, as part of IC20 on the previous version of the Permit. We would consider that this condition has been completed as a result.

(John Dickson's comments).

The discharge of this improvement condition is not assessed as part of the permit variation application determination, but is rather part of the Environment Agency Area Team's on-going compliance assessment activities. As they have not formally discharged this improvement condition, it remains included in the varied permit (marked as "submitted" in the permit). (John Dickson's comments).

Information for this improvement condition has been supplied by Elizabeth Voice (NRW) to assist with pursuing whether the condition has been met or further information is required. A meeting has been arranged for 13th January 2014 to review the information available.

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IC2 The operator shall carry out an investigation into surrogate measures that could be employed to demonstrate correct operation of the scrubbers used to abate emissions from the Ruabon and Eindhoven spray driers. Following completion, the Operator shall submit a report to NRW detailing the assessment and proposals for any improvements identified.

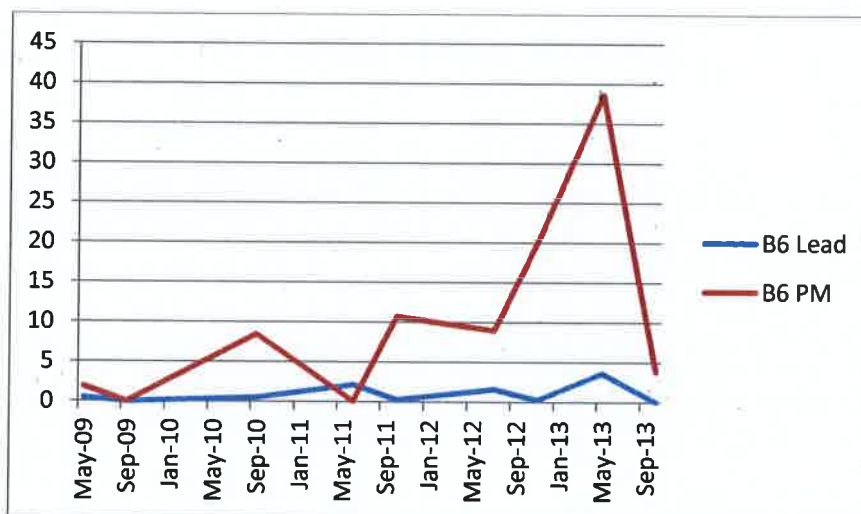
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IC 2 – Operator to submit a report on how the scrubber performance will be monitored. E.g. Is there a correlation between Pb and PM from the dryers, is it possible to use PM monitoring as a surrogate Pb measurement?

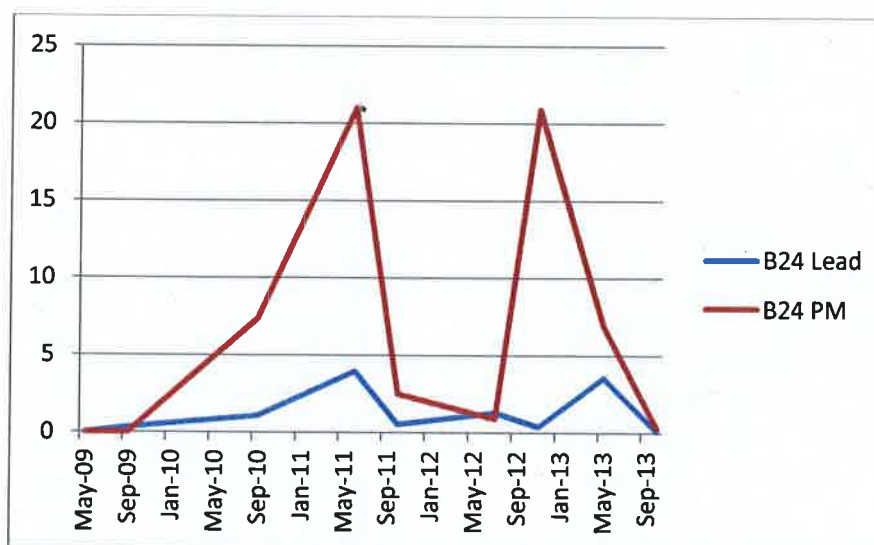
The Ruabon and Eindhoven spray driers emit to the scrubbers B6 and B24 respectively. The results taken every 4 months for the past 4 years have given results as shown in the graphs. As can be seen from the graphs there is no correlation between the amount of particulate matter emitted and the lead content of the emissions.

This is due to the fact that the powder batches through the spray driers are either lead based (PZT) or non-lead based (Dielectric). B6 can be a mixture of di-electric and PZT whereas B24 is PZT only.

scale mg/m³?



Ruabon Spray Drier
- mixture of dielectric (non Pb) & PZT (Pb)



Eindhoven Spray Drier
Pb based batch only.

why not reported a breach.

The scrubbers will continue to be monitored three times a year by Environmental Evaluation. The levels of 0.2 mg/m³ and 3mg/m³ for B6 and 0.2 mg/m³ and 2 mg/m³ for B24 from the permit appear very low compared to the results that have been achieved.

Mass emissions were taken for October 2013 and these were:-

B6 Lead 0.27g/hr

B6 Particulate 13g/hr

B24 Lead 0.06g/hr

B24 Particulate 0.2g/hr

0.2 mg/m³

3 mg/m³

0.2 mg/m³

2 mg/m³

~ 4 mg/m³ max
~ 39

~ 4 "
~ 21

What do I compare to to see if
mass emiss^{ns} are insignificant?

$$B6 + B24 = 0.33 \text{ g/hr} = 7.92 \text{ g/day if 24 hr op.}$$

Check BSEN 14385 - Pb

13284-1:2002 Particulate

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IC4 The operator shall complete a BAT assessment of the emission control measures employed for the priority emission points that are identified by the outcome of the improvement programme item IC3.

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IC 4 - Operator to BAT assess based on H1 (already completed) and the priority emission points identified in IC 3.

The table below tabulates the results that were entered into an H1 assessment which has been submitted to the EA (now NRW) in July 2012.

	Lead mg/m3	Particulates PM10 24hr mean mg/m3	Ethylene glycol mg/m3
B6	0.2868	10.7	~
B7	0.2525	6.8	~
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B18	0.004	6.1	~
B24	0.5541	2.5	~
B26	0.22	1.4	~

A meeting has been arranged with Elizabeth Voice on 13th January 2013 to discuss the improvement condition further.

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IC6 The operator shall propose, in writing to NRW, a programme to monitor aluminium in effluent discharged from the electrocoagulation plant. Once the proposed monitoring programme is agreed in writing with NRW, the operator shall carry out the monitoring programme and shall report results to NRW within one month of the end of the agreed monitoring programme. The NRW shall review the report and determine whether further controls and/or monitoring of aluminium in the discharged effluent is required.

S1.4 Electrocoagulation Effluent Treatment Plant

The operator shall submit a report after commissioning the electrocoagulation effluent treatment plant, demonstrating that the plant will achieve the emission limit values set in Table S3.3 and reporting aluminium concentrations in the discharged effluent. The report shall include an assessment of the environmental impact of emissions to sewer. The report shall be supplied to NRW. The operator shall not commence operating the ETP until written notification to commence operation of the effluent treatment plan is received from NRW.

Emission point ref and location	Parameter	Source	Limit (Incl unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 on site plan in schedule 7 emission to Five Fords Sewage Treatment Works	Lead	ETP	0.5mg/L	Spot sample	6 months	UKAS approved method
S1 on site plan in schedule 7 emission to Five Fords Sewage Treatment Works	Zinc	ETP	2mg/L	Spot sample	6 months	UKAS approved method

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IC 6 and S1.4 - Operator to collate the Al results from DCWW using the new sample location. Operator to analyse for Al (and Pb, not required by this IC but required for permit breach work) for worst case batch/product. The period of analysis must be of sufficient length that the results are statistically meaningful. Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme shall either have MCERTS certification or MCERTS accreditation as appropriate (ref. Section 3.3.3 of permit).

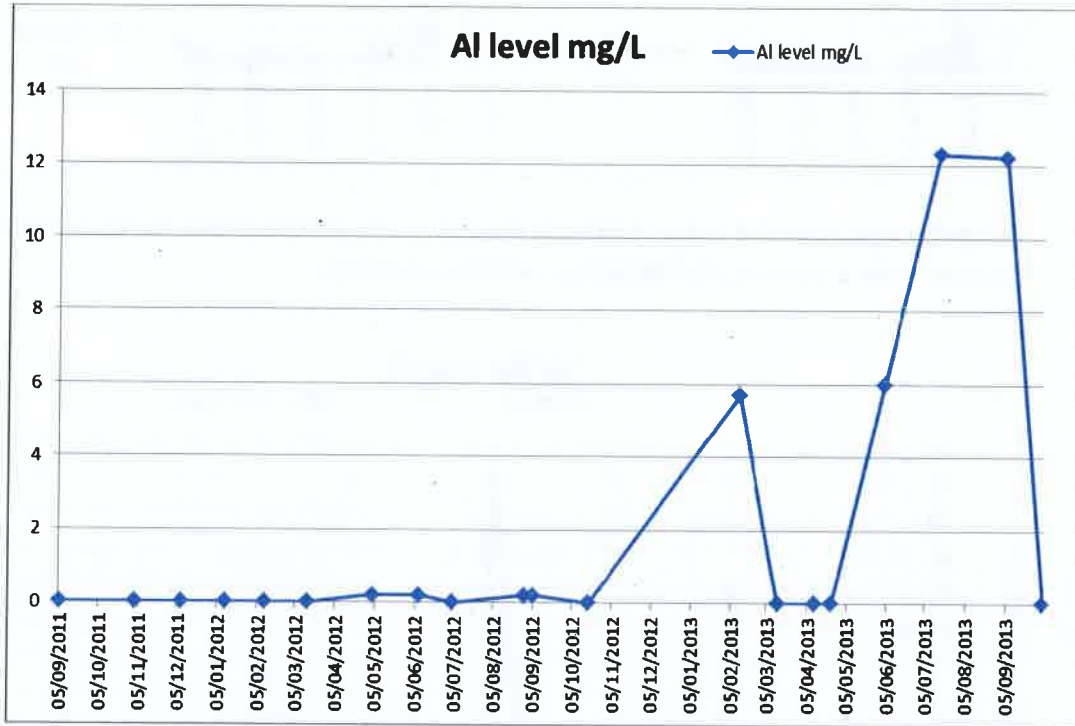
The effluent treatment plant is continuing to undergo commissioning.

Until September 2013, the DCWW samples were potentially taken before the return line (i.e. out of spec effluent which would have been returned to the holding tank and not discharged to sewer). To ensure this does not occur again the pre-treatment valve has been locked off. When the external testers, Welsh Water, come to take samples, Hydro are taking one at the same time for comparison of results.

To ensure the limits are not breached during the commissioning phase a Granulated Activated Carbon (GAC) system has been added to back end of the process. The GAC system is a temporary measure until a pre-treatment vortex settlement tank is added in January 2014. Once the commissioning phase and monitoring for this additional piece of equipment has been assessed, the plan is to assess the results prior to removing the GAC filter.

*commissioning
8 months*

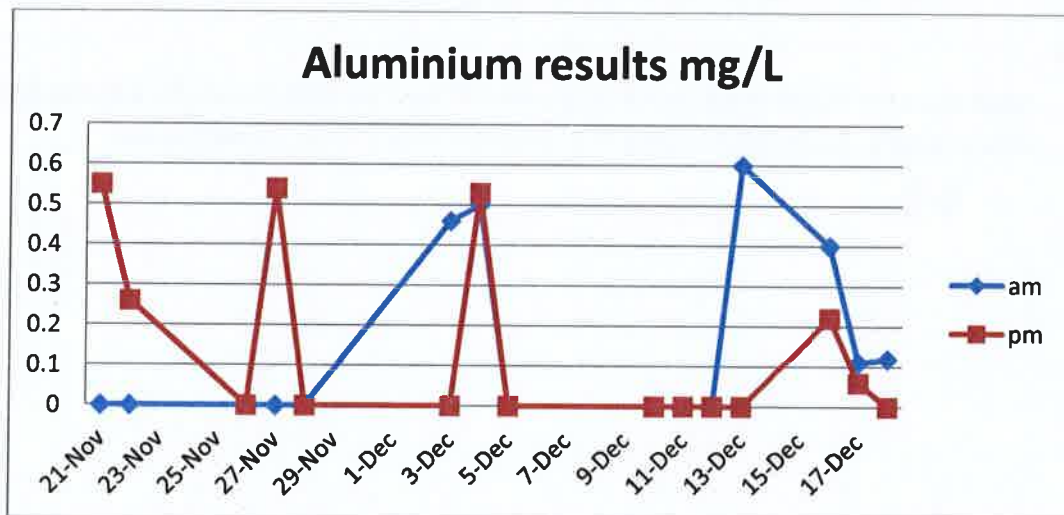
The aluminium testing is carried out by Welsh Water every month and by Hydro every day they are on site with a weekly sample (from Hydro) going to a testing lab (Anchem).



old monitoring point

As expected the level of aluminium increased during 2013 as the aluminium electrode was utilised.

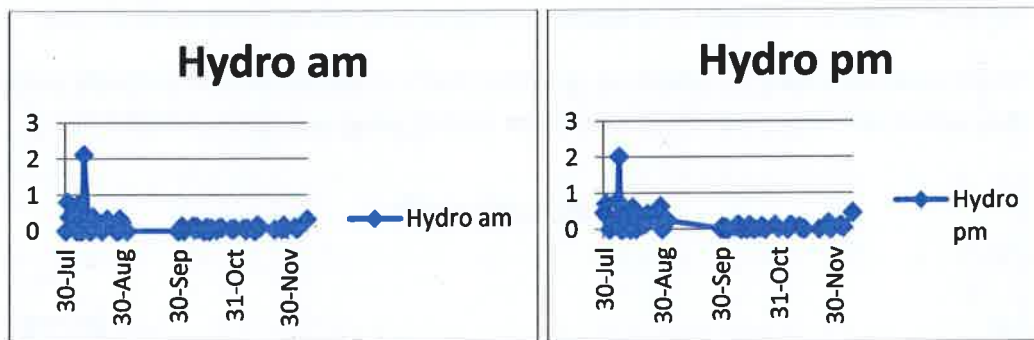
The results from Hydro are on the graph below



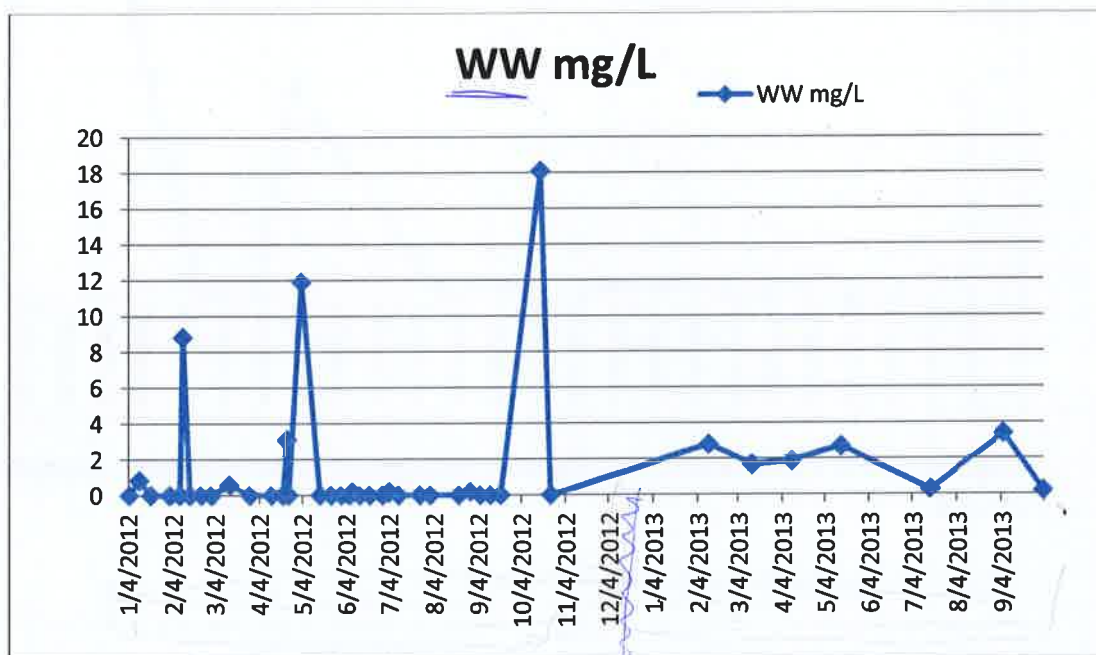
happy with results

The results seen are less than 1mg/L. It is proposed to continue monitoring these results until full commissioning of the ETP has been completed.

The lead results are as follows:-



As can be seen from the Hydro lead tests they have only detected lead above 2 on one occasion both a morning (09/08) and an afternoon (07/08).



Looking at the Welsh Water results after the ETP was installed the results are generally below 2mg/L. As discussed above the ETP will continue to be commissioned.

0.5

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IC7 *The monitoring carried out to discharge IC1 shall include monitoring the emissions to air from the new sinter kiln discharging via emissions point B14, added by variation EPR/PP3834CB/V002.*

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IC 7 – installed March/April 2013. No vent therefore operator to state this and the IC will be complete.

Morgan Advanced Materials, Ruabon confirms that the new sinter kiln added to point 14, does not have a vent for any emissions. The emissions to point 14 have not altered by the addition of this new kiln. ✓

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IC8 *The operator shall review the findings of IC1, IC3, and IC5, in discussion with NRW, and identify emission points which require further monitoring in order to characterise operational emissions. The operator shall then propose, in writing, a monitoring programme to characterise operational emissions to air. This will provide NRW with sufficient data on which to base a review of emissions to air and permitted emission limit values.*

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IC 8 – operator to review IC 1, 3 and 5. Identify further monitoring required to characterise emissions points. Propose monitoring programme to provide sufficient data to review emissions to air and ELV's.

A meeting has been arranged with Elizabeth Voice on 13th January 2013 to discuss the improvement condition further.

CAR report dated 16/10/13**Other**

1. Due to proposed changes in the monitoring to air and sewer, the Operator Monitoring Assessment will be carried out next year.
2. B7 is to be removed and replaced. MEC to notify NRW of this.
 - a. This has not been carried out to date and when it is proposed to do so Morgan will notify NRW in writing.
3. Operator to write to confirm the company has changed its name.
 - a. The company is now known as Morgan Advanced Materials, Technical Ceramics
4. 4 presses and 4 kilns are to be added to site, to vent through one emission point. The operator should make an application to vary the permit as a minor variation and to register the new emission point.
 - a. This is still under discussion, when it comes to fruition Morgan will apply for the minor variation.
5. PIR login details can be changed by phoning 03708 506506.
 - a. Duly noted

