



Schedule 1 • Notification of abnormal emissions

Part A

Permit Number		EPRIWP3836ZF	
Name of Operator		SITA Healthcare Ltd	
Location of Installation		Wrexham Clinical Waste Incinerator, Marlborough Road, Wrexham Industrial Estate, Wrexham LL13 9RJ	
Location of the emission		A1	
Time and date of the emission		11:54- 12:26 on 14 Nov 2013 (Report Received 7 Jan 2014)	
Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place
Particulate Matter (Bi-annual)	Air	140 mg/m ³	11:54-12:26
Measures taken, or Intended to be taken, to stop the emission		All filter bags replaced	

Part B

Any more accurate information on the matters for notification under Part A.	When the filter bags were replaced it was noted that several filter bags had small tears sustained through normal wear and use. These were responsible for allowing particulate matter to pass through. A report dated 10/01/2014 by the Continuous Emission Monitoring Systems (CEMS) service provider identified that the particulate matter probe had been coated with a white residue, believed to be lime. This had led to a lack of sensitivity of the particulate matter probe which is why there was no breach of the 1 hourly or daily average emission limits.
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	INITIALS	DATE
OK FOR PUBLIC REGISTER	LC	18.7.14
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Measures taken, or Intended to be taken, to prevent a recurrence of the incident

Because the CEMS data did not indicate a breach it is difficult to identify the period out of consent other than for the 13th November when it was confirmed by the Bi-annual test.

The filter bags do have a finite life time due to the environment and service. Other than general wear and tear, two specific potential causes have been identified:

The bags are susceptible to increased wear if they start to exhibit brittle patches due to an excessive build-up of lime (that is used for pollution abatement and the filters are designed to remove). This can occur due to moisture ingress and although not normally an issue during normal operation at elevated temperatures. However this can be an issue at shut downs when moisture in the air can condense. To prevent this heat tracing and a heater is used but these were out of service at the previous shut down in September 2013.

Also at the September 2013 shutdown, evidence of what appeared to be a fire in the 3rd Reactor (the final pre-bag house stage). A fire there could have caused sparks or embers to damage the filter bags. This is reportedly an extremely rare event and evidence of fires is not seen post kiln. It is unlikely that material could have passed through the previous unit operations so the material may have been left in the plant at a previous shut down.

Met with CEMS service provider 7 March 2014 to ascertain as to why the CEMS did not recognise the breach and why the CEMS readout was elevated from July to November before being able to be returned to baseline.

The report from the CEMS service provider concluded the following:

There was no fault with the particulate matter monitor. Span was on expected level. Sensitivity and k factor are default: Height and 1.0 respectively particulate matter monitor passed linearity check.

According to the service engineer's report dated 10/01/2014 the probe was covered by lime. The isolator was covered as well, readings were higher than normal. Readings dropped to a lower level when the probe was cleaned.

The difference between Bi- Annual readings and CEMS monitor readings can be explained by the main difference in principle of operation. The Isokinetic test is taking samples which are then weighed. Electrodynamic probe measures the charge of the particulate matter. If the probe is covered in any material the response will change. This response change is unfortunately un-quantifiable. The particulate matter probes are set up & calibrated on a certain particulate matter profile. If this changes the response could change.

All filter bags have been replaced.

Biannual particulate matter test was repeated 23 January 2014- The result of which was 1.44 mg/m³ and therefore well within the permitted limit of 20 mg/m³

Three monthly Inspections and cleaning of the particulate matter CEMS probe carried out by the CEMS Service provider.

Actions to prevent reoccurrence of damage to filter bags

Bag house trace heating and heater to be returned to service. An Electrician is booked. To be completed by 31 March 2014

Post Combustion stages to be inspected for evidence of fires and to ensure all clear of foreign material pre-bag house before start up. Ensure a record is maintained

A sample of used filter bags from known high wear areas to be exchanged at shutdowns for return to the supplier to identify excessive bag wear.

Actions to identify damage to filter bags

Contact CEMS service provider about Site Maintenance staff carrying out higher frequency particulate matter probe cleaning and feasibility of using a "maintenance setting" to take the probe off line whilst cleaned. 31 March 2014

Investigate feasibility of reinstating filter bag house pressure differential indication to help identify passing filter bags (reduction in pressure differential) or blinding of filter bags (increase in pressure differential). 31 March 2014

Purchase equipment to allow "Black light test" of filter bag condition using UV visible powder and UV light - 31 March 2014. Schedule and record test and results appropriately.

Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	No action appropriate
The dates of any unauthorised emissions from the Installation in the preceding 24 months.	27/9/2012, 31/10/2012, 16/2/2013, 14/3/2013, 9/4/2013, 18/4/2013, 1/5/2013, 24/12/2013

Name*	Stephen Blay
Post	SHEQ Officer
Signature	
Date	14 March 2014

* authorised to sign on behalf of SITA Healthcare Limited

