



Permit Number:- EPR/BP3532HX

End of Year Report 2014

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1 – Introduction

1.1 – General Introduction

This document represents Kennametal Manufacturing UK Ltd's performance report for the calendar year 2014 and has been compiled in line with the conditions set out in section 4.2.1 of the site's environmental Permit EPR/BP3532HX.

2 – Environmental Setting

2.1 – Site Location

The installation is located at Lake Road, Leeway Industrial Estate, Newport, Gwent. The centre of the site is at National Grid reference ST 343 860. The site covers an area of approximately 1 Ha.

Kennametal Manufacturing UK Ltd. is located on Leeway industrial Estate which is an industrialised area south of Newport City Centre. The site comprises of two buildings (east building and west building) separated by Lake Road. Immediately to the north are Furlong Flooring Ltd and a Volvo Garage. To the east of the site boundary are a set of four units, occupied by S Daniels PLC, Baltijas (UK) Ltd, Lear Investments, and DHL International (UK) Ltd. To the west of the site is TDG Temperature controlled services. Immediately to the south of the site are White Bros and Speed Ltd, and JSW Steel Service Centre. It is considered that none of these operations have the potential to cause pollution to the Kennametal Manufacturing UK Ltd site.

2.2 – Details of Installation

Kennametal Manufacturing UK Ltd. are producers of boron nitride and titanium diboride ceramic materials, these activities are included in the EPR (England & Wales) 2010 regulations. Both of these materials are produced by high temperature carbothermic reduction processes.

The other activities on site are non listed activities these are pre-treatments of the raw materials in the powder production area. Size reduction and classification of ceramic powders to produce final products for customers, the boron nitride powder is also treated in order to form specialist grades. Manufacture of water based ceramic coatings, hot pressed ceramic billets and machining of shapes are also non listed activities carried out on site.

A site report has been submitted as part of the application to operate under the Pollution prevention and Control Regulations 2000. The report concluded that there was little likelihood of land pollution from the installation.

The nearest surface water course to the factory is 'Julian's' rean which lies approximately 1km to the east of the site. The nearest major watercourse is the river 'Usk' estuary, which lies approximately 3km to the south-west of the site at its nearest point.

The site lies on an indicative flood plane, however there have been no recorded instances of flooding at the site.

3.1 - Monitoring Data

Emissions monitoring via a third party contractor is conducted at the designated release points on a quarterly basis. The results for 2014 are tabled below.

Table 3.1

			2014					
			Q1	Q2	Q3	Q4		
Emission Point Reference	Substance to be Monitored	Emission Limit Value (mg/m3)	Periodic Monitoring Result (mg/m3)	Periodic Monitoring Result (mg/m3)	Periodic Monitoring Result (mg/m3)	Periodic Monitoring Result (mg/m3)	Average Result (mg/m3)	Total (mg/m3)
A1 BN Firing Stack	Particulates	25	11	124	3.5	4.2	35.675	142.7
	Ammonia	30	0.33	1.12	0.85	15.46	4.44	17.76
	Carbon Monoxide	200	129	110	93.34	108.94	110.32	441.28
	NOx	100	35	42	7.1	73.1	39.3	157.2
	Sulphur Dioxide	20	5	7	4.7	9.6	6.575	26.3
	Total Cyanide	**	2	0.59	0.08	0.59	0.815	3.26
A3 BN Jet Mill	Particulates	5	0.1	0.8	0.6	0.74	0.56	2.24
A6 No2 Oven	Particulates	25	78	11.9	22.6	5.1	29.4	117.6
A7 TiB2 Mill	Particulates	5	0.1	0.6	1.4	4.9	1.75	7
A8 TiB2 Firing Stack	Particulates	25	0.5	7	7.5	3.9	4.725	18.9
	Ammonia	30	0.04	0.08	0.08	0.32	0.13	0.52
	Carbon Monoxide	100	46	72	51.68	43.48	53.29	213.16
	NOx	100	5	5	1.22	0.08	2.825	11.3
	Sulphur Dioxide	20	5	5	7.91	5.65	5.89	23.56
	Total Cyanide	**	0.04	0.05	0.04	0.05	0.045	0.18

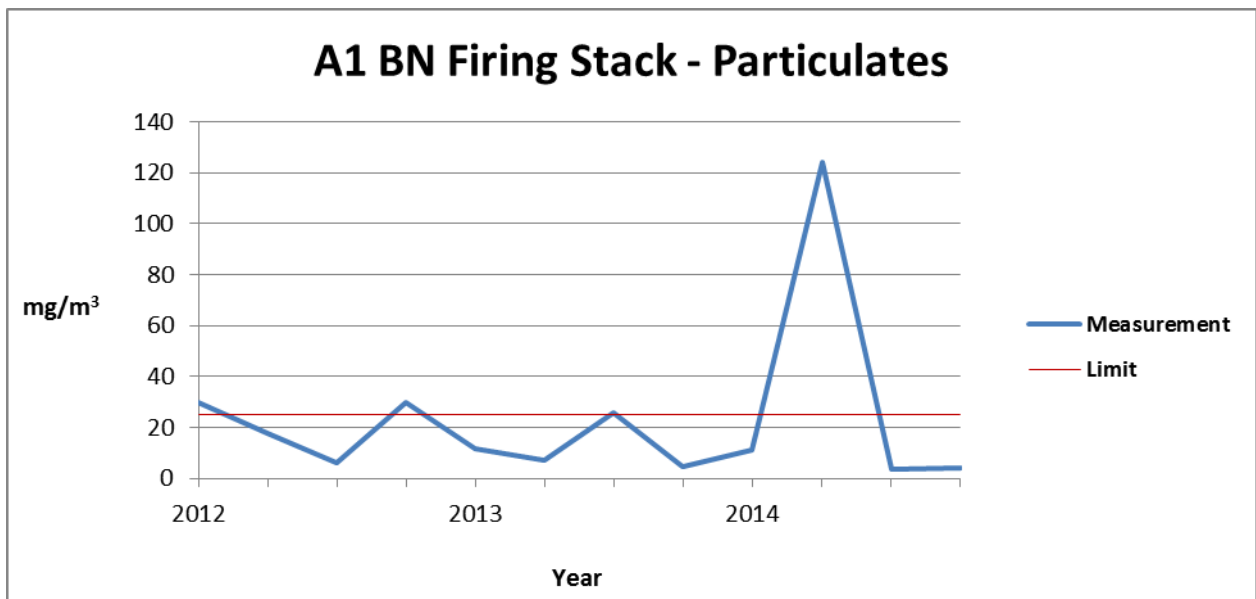
** Currently no limit agreed

ELV Exceeded

Emission Point A1 – BN Furnaces Exhaust Stack

The measured values of all of the monitored parameters at this emission point were lower than the respective emission limit values (ELVs) during 2014, except for particulates in Q2 (table 3.1, figure 3.1). The reason for the exceedance was fully investigated and it was found to be caused by a large number of damaged filter socks. A database was created to record the details of the condition of each and every filter sock over time. This has improved the monitoring of the filter socks and should reduce the likelihood of this happening again. The two subsequent monitoring results were well below the emission limit for particulates.

Figure 3.1



Emission Point A2

This emission point has not been in use since the third quarter of 2011.

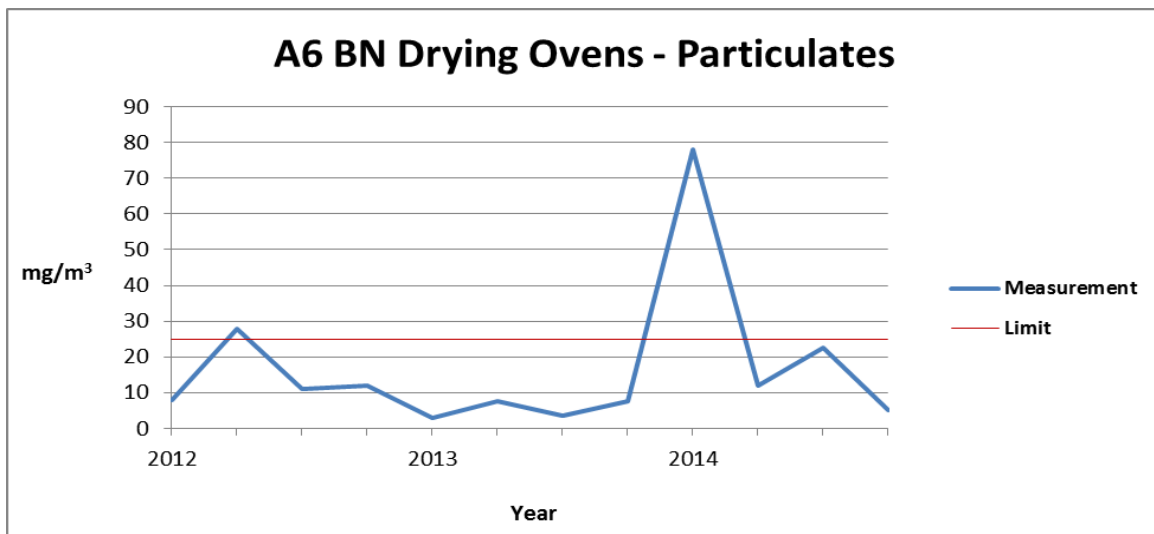
Emission Point A3 – BN Jet Mill

The measured particulate concentrations at this emission point complied with the extremely low ELV during all monitoring periods in 2014.

Emission Point A6 – BN Drying Ovens

The wet scrubber at this location has been in operation for three years. Measurements taken at this emission point since the installation have been consistently below the ELV except for the first quarter of 2014 (table 3.1, figure 3.2). A thorough investigation into the exceedance was conducted and two actions resulted. The emission stack was thoroughly cleaned and a regular maintenance program was implemented. Prior to this there had been no maintenance undertaken on the stack. In addition to this, the monitoring company has since used a different MCERTs accredited in-stack sampling method, to prevent material from precipitating out of the air stream in case this was occurring. Measurements taken since Q1 have been below the ELV which could mean that past exceedances were due to one or both of the above mentioned factors. However, it is possible that there are peaks and troughs occurring in the emissions from this process which could be responsible.

Figure 3.2



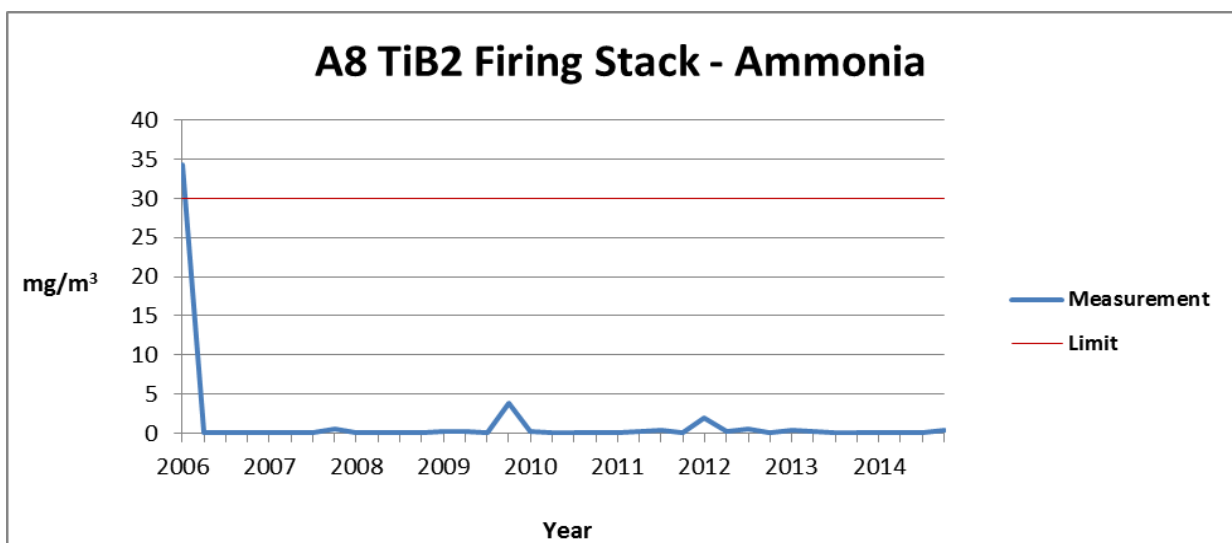
Emission Point A7 – Tib₂ Jet Mill

The measured particulate concentrations at this emission point complied with the extremely low ELV during all monitoring periods in 2014.

Emission Point A8

The measured values of particulates and all gases at this emission point were lower than the respective ELV during 2014. The consistently low ammonia measurements (table 3.1, figure 3.2) further strengthen the belief that the exceedance in Q1 of 2013 was erroneous.

Figure 3.3



3.2 – Improvement Performance

3.2.1 Improvements in 2014

ISO:14001 EMS

An ISO:14001 certified environmental management system was implemented in 2014.

Reduction in water usage

A 15% reduction target for water usage has been achieved through the installation of equipment on our urinals which makes them more efficient. Welsh Water recommended this as the only opportunity for improvement during a water usage survey.

Reduction in paper usage

The communal printer in the east building has been replaced with a printer that prints double sided as default which has reduced paper usage.

3.2.2 Targets and objectives for remainder of financial year (July-June)

Waste reduction

Evaluate feasibility of using bulk storage containers for the delivery, storage and internal transfer of raw materials instead of plastic and paper packaging.

Determine whether solid graphite waste generated from powder production, can be reused or recycled by our graphite vendor.

Fugitive emissions

A periodic cleaning regime is to be implemented for the cleaning of the site's hard standings, to remove fugitive dust materials that may accumulate over time.

Reduction in energy consumption

Reduce energy consumption by 3% by:

- Reducing the furnace cycle time from 30 hours to 27.5 hours for the TiB2 firing process.
- Conducting a compressed air leak survey