

Summary sheet	
Permit Number: AP35385M	Compliance Officer: Matthew Kelk
Operator: Tradebe Healthcare National Ltd (Wrexham Waste Incineration Facility)	Auditor (if different): Andy Collins
Emission Point(s): A1 Main Stack	Others Present: Sian McGregor-Andrew
OMA Sections	SCORE
OMA 1 – Management of monitoring	88%
OMA 2 – Periodic monitoring and test laboratories	98%
OMA 3 – Continuous monitoring	94%
OMA 4 – Quality assurance	93%
	<b>OVERALL SCORE</b>
	<b>93%</b>
OVERALL SITE ASSESSMENT COMMENTS	Letter
	Variation
	Enforcement
<p>This OMA focused on the monitoring of emissions to air (periodic and CEMs) from A1 (main stack) at Tradebe Waste Incineration Facility, Wrexham.</p> <p>Tradebe (operator) and Exova Catalyst (Monitoring Test Consultant) have shown that quality control for periodic and continuous monitoring are generally well managed, providing reliable monitoring data. Competency of periodic &amp; continuous monitoring, records, staff, and quality assurance were all very high. This has resulted in a high overall score of 93%.</p> <p>A few minor observations are also noted in this audit, which Tradebe and Exova Catalyst should take into account.</p>	
	Date of audit: 18/10/2016
	Signed: A Collins
	Date: 07/11/2016

OMA 1: Management of monitoring		
OMA ELEMENTS	SCORE	COMMENTS
A. Documentation of management system procedures for monitoring	5	Tradebe document management for monitoring was comprehensive, with THC 121 “Incinerator Environmental Monitoring Responsibilities” being the overarching document covering operator roles/responsibilities for monitoring compliance. This was up to date, and is reissued where necessary to all relevant staff. Site Specific Protocol (SSP) for periodic testing reviewed from monitoring contractor (Exova Catalyst), and was up to date (at time of submission).
B. Organisational structure for monitoring	5	Company organogram reviewed for healthcare sector of Tradebe, and Operator monitoring staff for Wrexham facility. Contingency planning of appropriate deputy in place for monitoring personnel. Organogram linked with THC 121 document.
C. Schedules and planning of monitoring, including contingencies	4	SSP sent in good time prior to emissions testing by Exova Catalyst. Operator has annual monitoring summary plan in place – would be beneficial to add additional supporting information. See Summary Comments for more information.
D. Monitoring records and use of monitoring data	4	Tradebe have several documented procedures for reviewing monitoring data. Continual assessment of data is evident (via control charts), but monitoring records not always highlighted as an agenda meeting item for relevant staff (unless data is in danger of breaching ELV’s). CEMs all have appropriate “approach to limit” alarms set for relevant determinands.
E. Understanding the requirements of the permit and monitoring methods	4	Operator has a good understanding of what is required regarding the permit requirements and monitoring. Evidence of historical CEMs training with CBISS (CEM manufacturer). It would be beneficial for operator staff involved with monitoring to undertake further formal training - see summary comments for more information. Test contractor has suitable MCERTS accreditation.

<b>OMA 1 – SCORE</b>	22/25 = 88%	
<b>SUMMARY COMMENTS FOR OMA 1</b>		
<p>Overall a very good level of management monitoring. Some notes and observations below:</p> <p><b>OMA1C</b> A more thorough annual monitoring schedule, detailing monitoring requirements (periodic &amp; continuous) of each specific determinand listed on the permit (including frequency of monitoring and ELV's) would be beneficial for the operator, with links to the relevant in-house procedures where applicable.</p> <p><b>OMA1E</b> Some additional monitoring training would be beneficial for operator staff involved in monitoring management (even if they have done it previously, as a refresher, particularly as standards &amp; guidance are constantly evolving). The Source Testing Association (<a href="http://www.s-t-a.org/training/">http://www.s-t-a.org/training/</a>) holds relevant one day training courses for operators including:</p> <ul style="list-style-type: none"> <li>• Regulatory Monitoring Requirements for Process Operators</li> <li>• BS EN14181 quality assurance of an AMS (covering the CEMs and parallel testing)</li> </ul> <p><b>It is recommended that Tradebe staff involved in monitoring to attend either one or both of these courses before the next OMA.</b></p>		

OMA 2: Periodic monitoring and test laboratories		
OMA ELEMENTS	SCORE	COMMENTS
A. Sampling provisions <i>Critical Element</i>	4	Data and observations show that current sampling provisions from A1 main stack enable representative monitoring (with ability to monitor from all required sampling points), conforms to required flow criteria measurements with good accessibility. However, platform size does not appear to conform to Environment Agency Guidance Note TGN M1 although this will not have an impact on the quality of monitoring – see summary comments for more details.
B. Certification of equipment	5	Instrumentation used by contractor Exova Catalyst during periodic monitoring is MCERTS accredited (Horiba PG250 Combustion Gas analyser and Servomex analyser for Oxygen), and use appropriate operating ranges for the determinands.
C. Measurement methods and standards <i>Critical element</i>	5	Periodic Measurement methods and standards used by Exova Catalyst all comply with standard reference methods of highest priority, as stipulated in TGN M2, and are MCERTS/UKAS accredited. Test laboratories (including SAL Ltd and RPS) that are used to analyse determinands (post sampling – e.g. particulates) hold UKAS certification. See Summary box for more info regarding OMA2C.
D. Calibration methods <i>Critical element</i>	5	Sampling and analytical equipment used by contractor (Exova Catalyst) are all calibrated to MCERTS and UKAS standards where applicable.
E. Frequency of maintenance and calibration	5	All equipment involved in periodic testing has MCERTS/UKAS certification. Documentary records for maintenance and calibration frequency have been checked in most recent QAL2 report by contractor (Exova Catalyst).
F. Reliability of equipment (data availability)	5	Contractor equipment has shown high reliability – repeat sampling and rescheduling very rare. Exova Catalyst carry spares and duplicate equipment

		where necessary to ensure maximum availability.
G. Breakdown response	5	If contractor equipment is subject to failure or breakdown, parts and spares can always be provided within 24 hours.
H. Traceability	5	MCERTS accredited contractor. Reference materials used for calibrations purposes are UKAS accredited and traceable to EN ISO/IEC 17025. Test laboratories where samples are analysed post sampling (e.g. particulates) hold UKAS certification.
<b>OMA 2 – SCORE</b>	39/40 = 98%	

## SUMMARY COMMENTS FOR OMA 2

Overall an extremely high standard of periodic monitoring and test laboratories. Some comments and observations below:

### **OMA2A Sampling Provisions:**

Overall Sampling Provisions for Periodic Monitoring are very good, and representative sampling is achievable. However, from observation, the platform does not have sufficient space to fully comply with Environment Agency Technical Guidance Note M1. This states that the sampling platform should have a width from the edge of the stack (i.e. from the sampling port) to the edge of the sampling platform (i.e. the handrail) of a minimum of 1.5m. Exova Catalyst state in their Monitoring Reports that there is sufficient space for their monitoring equipment, but in view of our observations, **it is recommended Catalyst measure the distance from port to sampling platform edge to check ongoing compliance with this stipulation from M1.** If it is found that there is not in fact sufficient space (i.e. less than 1.5m), then they should amend their reporting template (in the section of monitoring deviations) to reflect this.

### **OMA2C Measurement Methods and Standards:**

Particulates monitored extractively using the Gravimetric method (standard reference method) to BS EN 13284-1

Heavy metal monitored extractively using ICP-MS (Inductively Coupled Plasma – Mass Spectroscopy - standard reference method) to standard BS EN 14385.

Oxygen monitored instrumentally using the Zirconia Cell method in either the Horiba PG-250 or Servomex analyser (both standard reference method) to standard BS EN 14789.

Sulphur Dioxide monitored extractively using Ion Chromatography (standard reference method) to BS EN 14791.

Flow/Velocity monitored using the recently updated standard BS EN 16911-1 (standard reference method).

OMA 3: Continuous monitoring		
OMA ELEMENTS	SCORE	COMMENTS
<p>A. Provisions for monitoring and location of CEMs</p> <p><i>Critical Element</i></p>	5	<p>Sampling facilities fully comply with requirements of EA Technical Guidance Note M1 for sampling gaseous emissions continuously (provisions for periodic extractive sampling are more prescriptive than CEMS). Homogeneity testing (to standard BS EN 15259) is not required (due to small duct diameter).</p>
<p>B. Certification of CEMs</p>	4	<p>All CEMS hold MCERTS certification for the relevant determinands. These include a PCME analyser (for Particulates), a Graphite FID analyser (for TOC), and an MIR900 Multi-Gas Analyser. Data recording software (CDAS Advanced – Elite Software) is also MCERTS-accredited. <i>It should be noted that the certification for all CEMs have passed their renewal dates for recertification – however they held certification at time of installation, and as long as they achieve ongoing compliance (QAL2/AST/QAL3 checks) then they remain valid.</i></p>
<p>C. Calibration methods</p> <p><i>Critical element</i></p>	4	<p>Installation is subject to BS EN 14181 - CEM analysers are calibrated using traceable gases, and verified with parallel tests using the Standard Reference Method (QAL2/AST). Operator carries out ongoing compliance (QAL3) zero and span checks on a regular basis (monthly), and results are managed using control charts. Calibration functions amended where required after AST testing. Span Gas used to calibrate CEM were cross-checked on site, and contained values that were tailored to emissions levels expected from A1.</p>
<p>D. Frequency of maintenance and calibration</p>	5	<p>CEM is maintained by CBISS (CEM manufacturer), who service the CEM as appropriate (including 4 scheduled preventative maintenance/calibration visits per year). Operator has a rolling 6 month service contract with CBISS (documentary evidence for this was seen). All records of maintenance and calibration checks are</p>

		documented within QAL2/AST emissions test reports.
E. Reliability of equipment (data availability)	5	Operator has calculated an availability rate of data from the CEMs of 99.42% (whilst operating under normal conditions, and charging waste).
F. Breakdown response	5	A breakdown response service will provide repairs within 24 hours.
G. Traceability	5	Calibrations gases for CEMS checked - all traceable to UKAS standards (EN ISO/IEC 17025), and in date. CBISS are contracted to provide maintenance and calibrations support; on site staff are equipped to carry out monthly calibrations (zero and span). QAL2/AST reports are all documented, and evidence of QAL3 records/control charts on were documented whilst on site.
<b>OMA 3 – SCORE</b>	33/35 = 94%	

## SUMMARY COMMENTS FOR OMA 3

Overall, a very good level of competence evident from personnel involved in CEMS maintenance and calibration. Some comments and observations below:

### OMA3B

CEM Certification details:

CDAS Advanced / Elite Software (CBISS) – certificate number MC090153/00 (expiry date 01/09/2014)

PCME QAL 991 Particulate Monitor and Sensor – certificate number MC050066/04 – certification range 0-15 mg/m<sup>3</sup> (expiry date 09/10/2010)

Graphite 52M FID Analyser – certificate number MC060082/06 – certification ranges 0-15 mg/m<sup>3</sup>, 0-500 mg/m<sup>3</sup> (expiry date – 21/09/2016)

MIR9000 Multi-gas Analyser Type 2 SEC Probe – certificate number MC020010/05 – certification ranges NO/NO<sub>x</sub> (OLD) 0-20 mg/m<sup>3</sup>, NO<sub>2</sub> (OLD) 0-20 mg/m<sup>3</sup>, CO<sub>2</sub> 0-25%, CO 0-75 mg/m<sup>3</sup>, SO<sub>2</sub> 0-75 mg/m<sup>3</sup>, N<sub>2</sub>O 0-20 mg/m<sup>3</sup>, O-25%, CH<sub>4</sub> 0-10 mg/m<sup>3</sup>, HCl 0-15 mg/m<sup>3</sup>, NO 0-100 mg/m<sup>3</sup> (expiry date – 08/01/2012).

*Although the CEM certification status of the CEMS have now expired, as long as they fulfil ongoing compliance in relation to full (QAL2/AST) and ongoing (QAL3) calibrations, they are fit for purpose.*

<b>OMA 4: Quality assurance</b>		
<b>OMA ELEMENTS</b>	<b>SCORE</b>	<b>COMMENTS</b>
A. External quality control schemes	5	All monitoring activities are MCERTS accredited. Exova Catalyst (Contractor) are a UKAS accredited company to EN ISO/IEC 17025, and participate in inter-laboratory proficiency testing schemes (including Laboratory Analysis and Particulate PT schemes).
B. Internal data quality control	4	CBISS data recording software is MCERTS accredited. Operator carries out regular documented checks for data integrity. Operator should also ensure measurement ranges for each CEM are suitable to capture any peaks, whilst also maintaining an appropriate level of resolution.
C. Competence of monitoring personnel	4	Contractors carrying out monitoring are all suitable MCERTS certified to appropriate level (with relevant technical endorsements held). Operator staff involved with monitoring have undertaken some historic training (with a focus on CEMs), but would be beneficial to refresh this.
D. Auditing of monitoring	5	Internal procedures require auditing of test contractor monitoring reports, paperwork (e.g. SSP) and on-site sampling.
E. Audit compliance	5	Audit records have been shown to be comprehensive, with corrective actions/comments where applicable.
F. Reporting	5	Compliant with permit reporting requirements. Test Contractor reports are available for inspection.
<b>OMA 4 – SCORE</b>	28/30 = 93%	
<b>SUMMARY COMMENTS FOR OMA 4</b>		
High level of Quality Assurance shown by operator and contractor (Exova Catalyst).		

## Acknowledgements

Content based on Environment Agency Operator Monitoring Assessment Version 4, January 2013 Reporting Template, Emissions to Air - used with permission.

## Further Information

More Guidance regarding Operator Monitoring Assessment (V4) can be found at the following GOV.UK webpages (Environment Agency Guidance Notes):

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/301267/Preparation\\_for\\_an\\_OMA\\_audit.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/301267/Preparation_for_an_OMA_audit.pdf)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/301257/Industrial\\_installations\\_regulated\\_under\\_the\\_EPR -  
\\_emissions\\_to\\_air.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/301257/Industrial_installations_regulated_under_the_EPR_-_emissions_to_air.pdf)