



**ENVIRONMENT
AGENCY**

Variation Notice with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

**MES Environmental Limited
Hanford Waste Services Limited
Stoke EfW Facility
Campbell Road
Sideway
Stoke on Trent
Staffordshire
ST4 4DX**

**Variation Notice Number
FP3632XM**

**Permit Number
QP3234SX**

MES Environmental Limited

Permit Number QP3234SX

Introductory note

This introductory note does not form a part of the permit

The following notice is issued under regulation 17 of The Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No. 1973 (as amended) (the Regulations) to vary the conditions of a permit issued under the Regulations to operate [part of] an installation. The notice comprises Schedule 1 containing conditions to be deleted, Schedule 2 conditions to be amended and Schedule 3 conditions to be added.

This variation allows changes to the installation as follows:-

- 1) The Waste Incineration Directive (WID) allows compliance with CO continuous emissions monitors to be demonstrated by 100% compliance with the 100 mg/m³ limit for ½ hourly averages or, alternatively, 95% compliance with a 150 mg/m³ limit for 10-minute averages. When the permit was issued in December 2005, Agency policy, was to use the 100% compliance figure in the permit. However, the Operator has recently produced data to show that the alternative 95% compliance regime is more appropriate for this site and they will now be required to demonstrate compliance with this method.
- 2) The periodic emission limit value for particulate matter and hydrogen chloride in Table 2.2.2 of the original Permit were appealed by other Operators in this Sector and the Environment Agency decided not to contest the appeal. Consequentially the periodic emission limit value in Table 2.2.2 for these two substances was amended for Operators who appealed the condition. Although MES did not appeal against the original values it has now been agreed that the revised emission limit values should also apply to this site.
- 3) Condition 2.2.8.1 and Table 2.2.11 specify that the permitted installation must be operated to ensure that the bottom ash shall have a total organic carbon (TOC) content of less than 3% **or** a loss on ignition (LOI) of less than 5% of the dry weight of the ash. However, the reporting requirements in Schedule 2 of the Permit and the associated Reporting Forms ASH 1 and ASH 2 only refer to the LOI. The Operator has requested a variation to Schedule 2 and the Reporting Forms to allow the option of reporting TOC or LOI and this has been agreed. In the event that the Operator samples the ash for TOC and LOI both values **must** be reported.
- 4) Condition 1.5 is no longer included in Permits and has therefore been deleted
- 5) The Notes attached to Tables 2.2.2 and 2.2.2a are included in the Permit to reflect the CEMS equipment in use on the plant and to cater for periods where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete half-hour period. However, the half-hourly

average will nonetheless be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. The original Permit allowed invalid half-hourly averages of up to a maximum of 8 per day to be taken into account which reflected the type of CEMS equipment in use at the time of Permit issue. New CEMS equipment has been installed on the plant and the time now taken to carry out the calibration requirements has reduced considerably. Therefore the number of invalid half-hour averages permitted has been reduced to five. The daily average value will now be considered valid if no more than five half-hourly average values in any day have been determined not to be valid.

- 6) At the time of Permit issue Incinerator Bottom Ash (IBA) was being stored in the open and outside the normal covered ash storage area. Consequently, Condition 2.13. was included in the Permit to cater for any potential liquid run-off from the IBA into the Effluent Treatment Plant. The IBA has now been removed from the site and this condition is no longer required. It has therefore been deleted.

Status Log of the permit		
Detail	Date	Response Date
Application	Received 18/03/2005	01/04/2005
Additional information received	Received 15/09/2005	No response required
Permit issue	Determined 15/11/2005	
Variation FP3632XM	Received 25/02/2008	Determined 06/05/2008

End of Introductory Note

Variation Notice

Pollution Prevention and Control
(England and Wales) Regulations 2000

Variation Notice

Permit number
QP3234SX

Variation number
FP3632XM

The Environment Agency (the Agency) in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No 1973) hereby varies the permit held by you

MES Environmental Limited (“the Operator”),
whose registered office (or principal office) is

**Crown Street
Wolverhampton
West Midlands
WV1 1QB**

company registration number **2826294**
to operate an installation at

**Hanford Waste Services Limited
Stoke EfW Facility
Campbell Road
Sideway
Stoke on Trent
Staffordshire
ST4 4DX**

to the extent set out in Schedules 1 to 3 of this Variation Notice.

The notice shall take effect from **06/05/2008**

Signed	Date

M. A. Smith

Authorised to sign on behalf of the Agency

SCHEDULE 1 – CONDITIONS TO BE DELETED

1.1) Condition 1.5 has been deleted.

1.2) Condition 2.13 has been deleted.

SCHEDULE 2 – CONDITIONS TO BE AMENDED

2.1) Table 2.2.2 has been amended as follows :-

Table 2.2.2 : Emission limits to air and monitoring during normal operation				
Emission point reference	Parameter	Limit (including Reference Period)	Monitoring frequency	Monitoring method
A1 & A2	Particulate matter	30 mg/m ³ ½-hr average	Continuous measurement	BS EN 13284-2 ^{6; 8}
A1 & A2	Particulate matter	10 mg/m ³ daily average	Continuous measurement	BS EN 13284-2 ^{6; 8}
A1 & A2	Particulate matter	30 mg/m ³ periodic over minimum 1-hour period	Bi-annual	BS EN 13284-1
A1 & A2	Total Organic Carbon (TOC)	20 mg/m ³ ½-hr average	Continuous measurement	BS EN 12619 ^{6; 8}
A1 & A2	Total Organic Carbon (TOC)	10 mg/m ³ daily average	Continuous measurement	BS EN 12619 ^{6; 8}
A1 & A2	Total Organic Carbon (TOC)	20 mg/m ³ periodic over minimum 1-hour period	Bi-annual	BS EN 12619
A1 & A2	Hydrogen chloride	60 mg/m ³ ½-hr average	Continuous measurement	MCERTS certified instruments ^{7; 9}
A1 & A2	Hydrogen chloride	10 mg/m ³ daily average	Continuous measurement	MCERTS certified instruments ^{7; 9}
A1 & A2	Hydrogen chloride	60 mg/m ³ periodic over minimum 1-hour period	Bi-annual	BS EN 1911
A1 & A2	Hydrogen fluoride	2 mg/m ³ periodic over minimum 1-hour period	Bi-annual	USEPA Method 26/26A
A1 & A2	Carbon monoxide	At least 95% of all measurements shall not exceed 150 mg/m ³ in any 24-hour period 10-minute average	Continuous measurement	ISO 12039 ^{4; 8}

Table 2.2.2 : Emission limits to air and monitoring during normal operation

Emission point reference	Parameter	Limit (including Reference Period) ¹	Monitoring frequency	Monitoring method
A1 & A2	Carbon monoxide	50 mg/m ³ daily average	Continuous measurement	ISO 12039 ^{4; 8}
A1 & A2	Carbon monoxide	100 mg/m ³ periodic over minimum 4-hour period.	Bi-annual	ISO 12039
A1 & A2	Sulphur dioxide	200 mg/m ³ ½-hour average	Continuous measurement	BS 6069-4.4 ^{5; 8}
A1 & A2	Sulphur dioxide	50 mg/m ³ daily average	Continuous measurement	BS 6069-4.4 ^{5; 8}
A1 & A2	Sulphur dioxide	200 mg/m ³ periodic over minimum 4-hour period	Bi-annual	BS 6069-4.1
A1 & A2	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) ¹⁰	400 mg/m ³ ½-hour average	Continuous measurement	ISO 10849 ^{5; 8}
A1 & A2	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) ¹⁰	200 mg/m ³ daily average	Continuous measurement	ISO 10849 ^{5; 8}
A1 & A2	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) ¹⁰	400 mg/m ³ periodic over minimum 4-hour period.	Bi-annual	ISO 10849 or BS ISO 11564
A1 & A2	Cadmium & thallium and their compounds (total) ²	0.05 mg/m ³ periodic over minimum 30 minute, maximum 8-hour period	Quarterly	BS EN 14385
A1 & A2	Mercury and its compounds ²	0.05 mg/m ³ periodic over minimum 30 minute, maximum 8-hour period	Quarterly	BS EN 13211
A1 & A2	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) ²	0.5 mg/m ³ periodic over minimum 30 minute, maximum 8-hour period	Quarterly.	BS EN 14385
A1 & A2	Dioxins / furans (I-TEQ)	0.1 ng/m ³ periodic over minimum 6-hours, maximum 8-hour period ³	Bi-annual	BS EN 1948

Note 1: See Section 6 for reference conditions

Note 2: Metals include gaseous, vapour and solid phases as well as their compounds (expressed as the metal or the sum of the metals as specified). Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V mean antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium respectively.

Note 3: The I-TEQ sum of the equivalence factors 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.

Note 4: The Continuous Emission Monitors used shall be such that the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed 10%. Valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted this value of the confidence interval (10%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete half-hour period, the half-hourly average shall nonetheless be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. (The number of half-hourly averages so validated shall not exceed 5 per day). Daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value will be considered valid if no more than five half-hourly average values in any day have been determined not to be valid. No more than ten daily average values per year shall be determined not to be valid.

NB:- 10-minute averages.

Valid 10-minute average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted this value of the confidence interval (10%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete 10-minute period, the 10-minute average shall nonetheless be considered valid if measurements are available for a minimum of 7 minutes during the 10-minute period. (The number of 10-minute averages so validated shall not exceed 15 per day). Daily average values shall be determined as the average of all the valid 10-minute average values within a calendar day. The daily average value will be considered valid if no more than 15 10-minute average values in any day have been determined not to be valid. No more than ten daily average values per year shall be determined not to be valid.

Note 5: As Note 4, except that the value of the confidence interval is 20% in place of 10%.

Note 6: As Note 4, except that the value of the confidence interval is 30% in place of 10%.

Note 7: As Note 4, except that the value of the confidence interval is 40% in place of 10%.

Note 8: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Note 9: The certification range for MCERTS equipment should be 1.5 times the daily emission limit value. The CEM shall also be able to measure instantaneous values over the ranges that are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

Note 10: Measurement of NO followed by multiplication by 1.05 can be substituted for measurement of all oxides of nitrogen.

2.2) Table 2.2.2(a) has been amended as follows :-

Table 2.2.2 (a) : Emission limits to air and monitoring during abnormal operating conditions					
Emission reference	point	Parameter	Limit (including Reference Period)¹	Monitoring frequency	Monitoring method
A1 & A2		Particulate matter	150 mg/m ³ ½-hour average	Continuous measurement	BS EN 13824-2 ⁴² during abatement plant failure or during failure of the continuous emission monitor
A1 & A2		Total Organic Carbon (TOC)	20 mg/m ³ ½-hour average	Continuous measurement	BS EN 12619 ⁴² or alternative surrogate as specified in the Application during failure of the continuous emission monitor
A1& A2		Carbon monoxide	At least 95% of all measurements shall not exceed 150 mg/m ³ in any 24-hour period 10-minute average	Continuous measurement	ISO 12039 ⁴³ or alternative surrogate as specified in the Application during failure of the continuous emission monitor

Note 1: See Section 6 for reference conditions

Note 2: The Continuous Emission Monitors used shall be such that the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed 30%. Valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods if no waste is being incinerated) from the measured values after having subtracted this value of the confidence interval (30%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete half-hour period, the half-hourly average shall nonetheless be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. (The number of half-hourly averages so validated shall not exceed 5 per day).

Note 3: The Continuous Emission Monitors used shall be such that the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed 10%. Valid 10-minute average values shall be determined within the effective operating time (excluding the start-up and shut-down periods if no waste is being incinerated) from the measured values after having subtracted this value of the confidence interval (10%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete 10-minute period, the 10 minute average shall nonetheless be considered valid if measurements are available for a minimum of 7 minutes during the 10-minute period. (The number of 10-minute averages so validated shall not exceed 15 per day).

Note 4: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

2.3) Table S2 in Schedule 2 has been amended as follows:-

Table S2: Reporting of monitoring data			
Parameter	Emission point	Reporting period	Period begins
Sulphur dioxide	A1, A2.	Every 6 months	1 January 2006
Total Organic Carbon	A1, A2.	Every 6 months	1 January 2006
Oxides of nitrogen as NO ₂	A1, A2.	Every 6 months	1 January 2006
Hydrogen Chloride	A1, A2.	Every 6 months	1 January 2006
Hydrogen Flouride	A1, A2.	Every 6 months	1 January 2006
Particulate matter	A1, A2.	Every 6 months	1 January 2006
Carbon Monoxide	A1, A2	Every 6 months	1 January 2006
Ammonia	A1, A2	Every 6 months	1 January 2006
Nitrous oxide (N ₂ O)	A1, A2	Every 6 months	1 January 2006
Cadmium & thallium and their compounds (total)	A1, A2	Every 6 months	1 January 2006
Mercury and its compounds	A1, A2	Every 6 months	1 January 2006
Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium and their compounds (total)	A1, A2	Every 6 months	1 January 2006
Dioxins / furans (I-TEQ)	A1, A2	Every 6 months	1 January 2006
Dioxin-like PCBs (WHO-TEQ Humans/Mammals)	A1, A2	Every 6 months	1 January 2006
Dioxin-like PCBs (WHO-TEQ Fish)	A1, A2	Every 6 months	1 January 2006
Dioxin-like PCBs (WHO-TEQ Birds)	A1, A2	Every 6 months	1 January 2006
Dioxins/furans (WHO-TEQ Humans/Mammals)	A1, A2	Every 6 months	1 January 2006
Dioxins/furans (WHO-TEQ Fish)	A1, A2	Every 6 months	1 January 2006
Dioxins/furans (WHO-TEQ Birds)	A1, A2	Every 6 months	1 January 2006
Poly-cyclic aromatic hydrocarbons (PAH)	A1, A2	Every 6 months	1 January 2006
Temperature	A1, A2	As requested by Agency Site Inspector.	1 January 2006
Pressure	A1, A2	As requested by Agency Site Inspector.	1 January 2006
Oxygen content	A1, A2	As requested by Agency Site Inspector.	1 January 2006
Water vapour content (unless gas is dried before analysis of emissions)	A1, A2	As requested by Agency Site Inspector.	1 January 2006
Suspended Solids	E1	As requested by Agency Site Inspector.	1 January 2006
pH	E1	As requested by Agency Site Inspector.	1 January 2006

Table S2: Reporting of monitoring data			
Parameter	Emission point	Reporting period	Period begins
Mineral oils and hydrocarbons	E1	As requested by Agency Site Inspector.	1 January 2006
Furnace Chamber Temperature	Line 1 & Line 2	As requested by Agency Site Inspector.	1 January 2006
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	Bottom Ash	Every 6 months for combined sample from Lines 1 & 2. Annually for individual sample from Line 1 & Line 2	1 January 2006
Loss on ignition (LOI) or Total Organic Carbon (TOC)	Bottom Ash	Every 6 months for combined sample from Lines 1 & 2. Annually for individual sample from Line 1 & Line 2	1 May 2008
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Bottom Ash	Before use of a new disposal or recycling route	1 January 2006
Metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	APC Residues	Every 6 months for individual sample from Line 1 & Line 2	1 January 2006
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	APC Residues	Before use of a new disposal or recycling route	1 January 2006
Wind Speed and Direction	Installation	As requested by Agency Site Inspector.	1 January 2006
Water usage	Installation	Every 12 months	1 January 2006
Energy usage	Installation	Every 12 months	1 January 2006
Waste disposal and/or recovery	Installation	Every 12 months	1 January 2006
Performance indicators	Installation	Every 12 months	1 January 2006

2.3) Reporting Form Number : Agency Form / QP3234SX / ASH1 has been amended as follows :-

See Appendix 1

2.4) Reporting Form Number : Agency Form / QP3234SX / ASH2 has been amended as follows :-

See Appendix 2

SCHEDULE 3 – CONDITIONS TO BE ADDED

3.1) None