

Report for the Periodic Monitoring of Emissions to Atmosphere

Saint Gobain Professional Services UK & Ireland

A2 - Fuel Handling

Permit No: EPR/A2/1
Installation: Calders & Grandidge (Boston)
Monitoring Dates: 1st March 2023
Site Address: 194 London Road, Boston, Lincolnshire, PE21 7HJ

Report Number: ES-1229 Version: 1 Visit: 1 in 2023
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MCERTS No: MM 20 1592 MCERTS Level: 2 (TE1, TE2, TE3, TE4)

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Executive Summary

Monitoring Objectives

Envirocare Technical Consultancy were contracted by Saint Gobain Professional Services UK & Ireland to carry out emissions monitoring, to determine the compliance of A2 - Fuel Handling with the conditions specified in the operators permit (EPR/A2/1) for emissions to atmosphere. The methodologies utilised and the results obtained form the basis of this report.

The substances requested for monitoring are listed below.

Emission Point Identification

Substances to be Monitored	A2 - Fuel Handling
Total Particulate Matter	✓

Special requirements: none

Opinions and interpretations expressed within this report are outside the scope of Envirocare Technical Consultancy's MCERTS and UKAS accreditation. Envirocare accepts no responsibility for information in this report that was provided by the client, the client's representative or employees of the client. Where such information has been provided by external sources this is identified in footnotes of the respective tables.

Executive Summary

Monitoring Results

where MU = Measurement Uncertainty associated with the result (95% Confidence)

Substance	Concentration			Reference Conditions	Mass Emission			Sampling Date	Sampling Times
	Limit (mg/m ³)	Result (mg/m ³)	Measurement Uncertainty (MU) +/-		Limit (g/hr)	Result (g/hr)	Measurement Uncertainty (MU) +/-		
Total Particulate Matter	50	3.72	-	273K, 101.3kPa, Wet Gas	-	19.5	-	01/03/2023	09:56-13:56

Reference conditions (REF) are: 273k, 101.3kPa, Wet Gas

Supporting Information

Appendix 1: General Information

Operating Information

Parameter	Process Details
Process Type	Fuel Handling System
Continuous or Batch Process	Continuous
Operating Status	Normal
Feedstock	Woodchip
Normal Load, Throughput or Continuous Rating	N/A
Abatement System	Cyclone
Abatement System Status	Normal
Process Fuel	N/A
Plume Appearance	None

Monitoring Deviations

Parameter	Run	Deviation
All Parameters	Run 1	There are no deviations associated with the monitoring undertaken.

Monitoring Organisation Staff Details

Personnel	Position	MCERTS Level	MCERTS Number
Mr T Arden	Team Leader	2 (TE1, TE2, TE3, TE4)	MM 18 1478
Mr M Knapton	Technician	Trainee	MM 22 1750

Monitoring Methods

Pollutant Species	Standard	Technical Procedure	Testing MCERTS	Analysis Laboratory	Analytical Procedure	Analytical Technique	Analysis MCERTS
Total Particulate Matter	MDHS 14/4	ETC - HS - 01	No	RPS	D1(U)	Gravimetric	No

RPS Laboratories Ltd (RPS) - Accreditation Number: 0605 | Marchwood Scientific Services - Accreditation Number: 1668 | Olfasense - Accreditation Number: 2430

Equipment Checklist

Extractive Sampling		Instrumental Analysers		Miscellaneous Items	
Equipment Type	Equipment I.D.	Equipment Type	Equipment I.D.	Equipment Type	Equipment I.D.
Control Box DGM	ETC-S8.05(b)	Horiba PG-250	-	Tape Measure	-
Box Thermocouples	-	Horiba PG-250 SRM	-	Bevel Box	-
Box Thermocouple In	-	Horiba PG-350	-	Stopwatch	-
Box Thermocouple Out	-	JCT JCC Cooler	-	Barometer	-
Control Box Timer	-	MAK10 Cooler	-	Digital Manometer	-
Umbilical	-	Horiba PS200 Cooler	-	Digital Temperature Meter	-
Oven Box	-	M&C PSS Gas Preparation	-	Dual Channel Heat Controller	-
Heated Probe (1)	-	Gasmet DX4000 FTIR	-	1m Heated Line	-
Heated Probe (2)	-	Gasmet Sampling System	-	3m Heated Line	-
Stack Thermocouple (1)	-	SK-Thermo FID	-	5m Heated Line	-
Stack Thermocouple (2)	-	Bernath 3006 FID	-	10m Heated Line	-
S-Type Pitot (1)	-	Testo 350XL	-	20m Heated Line	-
S-Type Pitot (2)	-	M&C PSP 4000	-	30m Heated Line	-
L-Type Pitot	-	Easylogger EN-EL-12 Bit	-	Impinger Arm Thermocouple (1)	-
Site Balance	-	Hicki 5043 (V)	-	Impinger Arm Thermocouple (2)	-
500g Check Weight	-	Analyser Temperature Logger	-	Dioxins Kit Thermocouple	-
1KG Check Weight	-	-	-	Sample Temperature Logger	-

Appendix 2: A2 - Fuel Handling Results and Calculations

Picture of the sampling location



Duct Characteristics

Parameter	Units	Value
Type	-	Circular
Depth	m	N / A
Width	m	-
Area	m ²	-
Port Depth	cm	-
Orientation of Stack / Duct	-	Vertical
Sampling Port Size	-	Grate
Number of Ports	-	2

Manual Sampling Points	Used / Required
Number of Sampling Lines	1 / 1
Number of Sampling Points	1 / 1
Instrumental Sampling Points	Used / Required
Number of Sampling Lines	N / A
Number of Sampling Points	N / A

Platform Type and Location	
Platform Type - Permanent / Temporary	Permanent
Location - Inside / Outside	Inside

EA Technical Guidance Note M1 Platform Requirements		
Load Baring Capacity	Load baring capacity of platform sufficient to fulfil the measurement objective	Yes
Position & Work Space	Sufficient work area to manipulate probe & operate the measurement instruments	Yes
	Depth of work area > internal diameter of stack and wall thickness plus 1.5m	N/A
	Ports on vertical ducts 1.2m to 1.5m above platform floor	N/A
	Platform has chains / self closing gates at top of ladders	Yes
Fall Prevention	Platform has adequate drainage to prevent accumulation of free-standing water	Yes
	Platform has 2 levels of handrails (approx. 0.5m & 1.0m high)	Yes
Access	Gaps between handrails not >0,5m	Yes
	Platform has vertical base boards (approx. 0.25m high)	Yes
	Access to sampling ports unhindered by obstructions	Yes
	Easy & safe access and egress available	Yes

Sampling Location / Platform Recommendations

Although the platform does not meet the requirements specified in Environment Agency Guidance Note M1 and BS EN 15259, it is adequate for the monitoring specified in the Site Specific Protocol.

Total Particulate Matter by MDHS 14/4 Method

Pump Ref.	Filter Ref.	Duration (min)			Meter Reading			Sample Volume (L)	Collected TPM Mass (mg)	Conc. (mg/m ³)	Corrected Conc. (mg/Nm ³)
		Start	End	Total	Start	End	Flow Rate				
ETC-S8.05(b)	IOM-GFA-709	09:56	13:56	240	40415	40972	2.3	557	2.0	3.6	3.7

Parameter	Value	Unit
Date	01/03/23	-
Flow Measurement Device	ETC-S8.05(b)	-
Atmospheric Pressure	1031	mbar
Stack Gas Temperature	12	°C

Emissions Calculations		
Blank Concentration	1.12	mg/Nm ³
Corrected Emission	3.72	mg/Nm ³
Corrected to 11% Oxygen	N/A	mg/Nm ³
Mass Emission Rate	N/A	kg/hr

Uncertainty of Volumetric Flow - Run 1

Parameter	Value	Unit
Measured Volumetric Flow Rate Actual	8803	m3/hr
Performance Characteristics & Source Value		
	Value	Units
Standard Uncertainty - Pitot tube Coefficient	0.01	-
Standard Uncertainty - Mean Local Dynamic Pressure	1.1	Pa
Standard Uncertainty - Molar Mass of Stack Gas	0.00005	-
Standard Uncertainty - Stack Gas Temperature	0.50	K
Standard Uncertainty - Absolute Pressure in Duct	176	Pa
Standard Uncertainty - Density of Stack Gas	0.003	-
Standard Uncertainty - Mean Velocity	0.06	m/s
Expanded Uncertainty Mean Velocity (95% confidence)	0.12	m/s
Expanded Uncertainty Mean Velocity (95% Confidence), Relative	1.3	%
Standard Uncertainty - Volumetric Flow Rate	212	-
Standard Uncertainty - Volumetric Flow Rate (95% Confidence)	415	m ³ /hr
Standard Uncertainty - Volumetric Flow Rate (95% Confidence), Relative	4.7	%
95% confidence interval factor - 1.96		

Document Version Number	Record of change within different version numbers
V1	Original version of the document issued to client.