OMA Report – Emissions to Air – EPR

Summary sheet	
Permit Number: BR9383ID	Compliance Officer: Paul Challender & Stuart Ross
Operator: Knauf Insulation	Auditor (if different): As above
Emission Point(s): All monitor	Others Present: Graham Jones

OMA Sections		SCORE
OMA 1 – Management of monitoring		64%
OMA 2 – Periodic monitoring and test laboratories		90%
OMA 3 – Continuous monitoring		71%
OMA 4 – Quality assurance		67%
	OVERALL SCORE	73%

OVERALL SITE ASSESSMENT COMMENTS	
	Letter
	Variation
	Enforcement

This Operator Monitoring Assessment (OMA) was conducted on the monitoring of emissions to air from the Stack Emission Release Points A, C, D, F & G at Knauf Insulation Ltd, Queensferry Mineral Fibre Works as required by Schedule 3 of EPR/BR9383ID. These emission points are subject to periodic and continuous monitoring; each monitoring point having its own defined requirements.

The operator has shown that quality control for periodic and continuous monitoring is reasonably managed, supplying reliable monitoring data. The competency of periodic & continuous monitoring, records, staff, and quality assurance has improved since the last audit primarily through enhanced control implemented by improved procedures.

Please see below for comments and recommendations. Defined actions have been raised in this OMA's associated Compliance Assessment Report form.

Date of audit: 30/01/2023
Signed:
Date 16/02/22

OMA 1: Management of monitoring		
OMA ELEMENTS	**SCORE**	**COMMENTS**
A. Documentation of management system procedures for monitoring	3	SAP, SharePoint and standalone spreadsheets are used as document management system for CEMs. MCERTS Data Acquisition & Handling Software (DAHS) is currently being investigated for implementation at the site. Work Instructions 55 & 57 control monitoring & CEMS respectively. The utilisation of a deputy is only lightly referenced in these documents and would benefit from enhancing. Responsibility delegation is currently under review between the different departments on site and will be documented once finalised. The procedures in monitoring responsibilities & communication between Hot End personnel and Shift Team Leader & Environment Manager if alarm arises from potential Emission Limit Values (ELV's) breach have been improved. Site Specific Protocols (SSPs) for monitoring campaign were made available. SSPs are "signed" by responding in an authorising acceptance email. A procedure for QAL3 campaigns is in development. Part of a QAL3 exercise was however, witnessed during the audit
B. Organisational structure for monitoring	3	Organogram KI_F053 version Dec 2020 highlights departmental roles. H&S and Env come under 'Process and Quality' > Health and Safety Manager and Environment Manager. High level role responsibilities. No overarching document evident covering roles and responsibilities in relation to all monitoring and maintenance at Knauf Queensferry site. Organogram for environmental monitoring needs to be developed.

C. Schedules and planning of monitoring, including contingencies	4	Order for yearly monitoring raised at start of year and dates requested for 1st month of each quarter to allow for delays in monitoring or retests. Monitoring Plan is maintained on a spreadsheet and actions are performed by Environment Manager. All SSP dates well in advance of monitoring, which supplies adequate time for review and agreement.
D. Monitoring records and use of monitoring data	3	Part As issued – shows review of CEMs and reporting of limit breaches. All limit breaches are distributed to plant management by Environment Manager. Operator uses SCADA system for monitoring data, which now includes updated ELV's for relevant determinands. CEMS data is visualised in control room and alarms are applied. Control Room operatives queried on the alarm procedure and had necessary understanding. Envi man OPSIS software can generate various average trends but there is no way of automatically removing invalid values from averages, which skews the reported values. Evidence provided of Env Manager spreadsheet of data review, including quarterly and annual returns. Procedures for data review are very light in existing documents.
E. Understanding the requirements of the permit and monitoring methods	3	Environment Manager and his deputy have been upskilled via the attendance of relevant training courses sine the last audit. Emissions monitoring data for Point F has not been normalised to standard reference conditions as specified in the permit for a combustion source.
OMA 1 – SCORE	16/25	64%

SUMMARY COMMENTS FOR OMA 1
The gap in monitoring responsibilities & communication between Hot End personnel and the Environment Manager in the event of a potential ELV breach has been improved. Delegation of departmental responsibilities is currently under review and will be documented. Although QAL 3 exercises are now carried out with part of a QAL 3 campaign witnessed during the audit the procedure to control this still needs to be raised and finalised. An organogram outlining monitoring responsibilities and scheme of delegation needs to be created and procedures implemented. 'Monitoring Plan Var.xls' contains the schedule of monitoring required by the site. It would be beneficial for the deputy to have access and a working understanding of the plan and the ability to arrange campaigns for periods of unplanned absence by the Environment Manager. The operator needs to install a MCERTS accredited DAHS system. Procedures regarding the outcomes of QAL2, AST and QAL3 campaigns are present in WI57. The Environment Manager and the deputy have now received training in relation to monitoring requirements. General understanding of the permit and monitoring requirements by the Environment Manager has increased since the last audit. Improvements in the awareness of site staff was also noted in relation to their specific work task that is controlled by permit conditions. Data for emission Point F has not been normalised correctly.

OMA 2: Periodic monitoring and test laboratories		
OMA ELEMENTS	**SCORE**	**COMMENTS**
A. Sampling provisions	3	A review of recent monitoring reports completed by the contracted test house identifies that all but two locations have suitable provisions for monitoring activities to be completed without deviation. Those exceptions being Points D & F. It was also noted that Point Y was found to have had a seized port during the last monitoring round. Refer text below.
B. Certification of equipment	5	MCERTS accredited test house Element (UKAS 4279) used for the periodic monitoring of all determinands.
C. Measurement methods and standards	3	All methods used are as per the hierarchy within Technical Guidance Note M2 or in accordance with the method specified in the permit where applicable. There are some deviations where both sample ports cannot be accessed for points D & F. However, the number of sample points used on the available lines were increased to the minimum required by the respective standard. The operator does informally review monitoring reports for deviations and raises queries with the test house. However, the review does not always identify, and remedy deviations as evidenced by the recent monitoring of emission point Y (refer comments below).
D. Calibration methods	5	MCERTS accredited test house.
E. Frequency of maintenance and calibration	5	MCERTS accredited test house. All equipment MCERT/UKAS certified.
F. Reliability of methods and equipment (data availability)	5	High reliability of MCERTS monitoring equipment. No instances of equipment failures or data unavailability.
G. Breakdown response	5	Breakdown response for periodic monitoring covered by MCERTS accredited test house.

H. Traceability	5	Evidence of traceable gases, balances and sample media by MCERTS accredited test house.
OMA 2 – SCORE	36/40	90%

SUMMARY COMMENTS FOR OMA 2

2A Sampling Provisions

Point F (Mainline curing oven) and Point Y (Cold end dust extraction) – Element report that for both sample points *'One of two sampling lines used due to sampling location restrictions, however the number of sample points used on the available line were increased to the minimum required by the standard'*. The previous OMA also identified that Point D (Binder Fume Extraction) appears to have access to the correct number of sample lines, but that only one line was used – the cause was not established during this audit.

Only one sample line can be used on Stack F due to obstructions. Following the audit, the operator contacted the test house and confirmed that the sampling line in the horizontal plane gives free access for the required number of positions. The sampling line in the vertical plane from the top of the duct can only be used for a single point, the reason being that the sampling train requires an oven box / heated filter box to be fitted that restricts movement and access via the top sampling port.

Point Y (Cold end dust extraction) – During testing 03/10/22 a deviation was reported that a single sampling line was used due to sampling location restrictions. Following the audit, the operator contacted the test house and established that the access port for one of the two sampling lines was found to be seized since it was last tested 2021.

The operator reports that SAP notification 10995209 has been raised to free off the 'access plugs' before the next test is due.

Element have normalised the emissions monitoring data for the Main Line Curing Oven to reference conditions 273k and 101.3kPa. However, the permit requires that emissions from combustion processes are also normalised to the concentration in dry air with an oxygen content of 3% for gaseous fuels.

Extractive monitoring data for Point F shall be corrected to 273K, 101.3kPa, dry gas with an oxygen content of 3%.

OMA 3: Continuous monitoring		
OMA ELEMENTS	**SCORE**	**COMMENTS**
A. Provisions for monitoring and location of continuous monitors	5	CEMs are only installed on Emission Point A. Sampling facilities fully comply with the requirements of Technical Guidance Note M1. Homogeneity testing (to standard BS EN 15259) is not required due to small duct diameter.
B. Certification of continuous monitoring	4	All CEMS hold MCERTS certification for the relevant determinands. These include: • Durag D-RX 250 Measuring System (for Particulates) • OPSIS AB AR 602Z (UV) & AR 650 (IR) analyser • OPSIS AB O2000 Oxygen Analyser. MCERTS DAHS to be installed in 2023 as agreed with the operator via separate correspondence.
C. Do not assess for air, water only	N/A	N/A
D. Calibration methods	3	Continuous monitoring is subject to the 'principles of BS EN 14181'. QAL2 completed July 2023, all parameters passed. The operator reports that calibration functions have been applied but this was not verified – operator to evidence. Following a previous action issued by NRW the operator is in the process of implementing QAL3 procedures for the OPSIS CEM. During the audit Envirotechnology were on site conducting bench testing.
E. Frequency of maintenance and calibration	3	QAL 2 completed July 2022, AST due 2023. Two QAL3 exercises have been completed to date as part of steps to meet the QAL3 requirements as detailed in previous correspondence. QAL3 is scheduled quarterly as per OPSIS recommendation. CEMs subject to 6 monthly routine service under contract with Envirotechnology.

F. Reliability of equipment (data availability)	3	Operator reports equipment as reliable and CEMS data is rarely unavailable as reported to NRW (availability >95%). The operator cannot provide documentary evidence to measure data availability.
G. Breakdown response	3	Envirotech 24hrs response for weekdays (9-5hrs). Site staff able to swap/keep some components but no formal training. Breakdown support under contract.
H. Traceability	5	QAL2 exercise completed by MCERTS accredited laboratory. NRW was present during QAL2 monitoring and traceable span gases were used.
OMA 3 – SCORE	25/35	71%

SUMMARY COMMENTS FOR OMA 3

3B - Certification of Continuous Monitoring

DURAG D-RX 250 Measuring System – certificate number MC150258/01 expired 15/01/20. However, as the instrument was manufactured and installed before certificate expiry the instrument retains MCERTS certified. The operator reported their intention to replace the instrument in 2023, the new instrument must have MCERTs certification and be subject QAL2 upon installation.

3D- Calibration Methods

Monitoring procedure QF_WI_057 requires the inclusion of QAL3 to implement the requirements of BS EN14181. The procedure should also be amended to include the requirement to implement QAL2 calibration functions into the DAHS within 6 weeks of receipt of the QAL2 report.

The operator reports that calibration functions from the most recent QAL2 have been applied but this was not verified – operator to evidence.

See the issued CAR form for the relevant actions to update procedure QF_WI_057 to include (1) QAL3 requirements, (2) QAL 2 calibration function implementation requirements.

OMA 4: Quality assurance		
OMA ELEMENTS	**SCORE**	**COMMENTS**
A. External quality control schemes	5	MCERTS/UKAS- accredited lab.
B. Internal data QC	3	DAHS system is not MCERTS. CEMS data now fed to and display on SCADA in the Hot End Control Room. Spurious or unexpected data have been identified and reported in Schedule 5 notifications.
C. Competence of monitoring personnel	4	Environment Manager & deputy have attended relevant certified training courses. Contractors carrying out the monitoring hold the relevant technical endorsements under the MCERTS scheme.
D. Auditing of monitoring	2	Audits are now carried out and documented on monitoring campaigns. There is no formal audit procedure for the monitoring of reports and data. No specific procedures exist in relation to auditing.
E. Audit compliance	2	No formal audit procedure or post auditing tracking.
F. Reporting	4	Monitoring reporting is generally compliant with permit reporting requirements. MCERTS Test House reports are available for inspection. Emissions for Point F have not been correctly normalised to standard reference conditions as specified by the permit.
OMA 4 – SCORE	20/30	67%

SUMMARY COMMENTS FOR OMA 4

Implement a DAHS system to improve the validation and interface (also see **1D**)

The operator has undertaken an audit of the onsite monitoring teams during the last campaign and logged the audit in hardcopy format utilising the Environment Agency's example audit form. This process could be improved by tailoring the form to be site specific to Knauf Queensferry.

Evidence was seen of an audit process, post receipt of the monitoring reports. Follow up queries have been raised and acted upon. Control of the auditing of monitoring would benefit from a procedure stating staff responsibilities, reviewing data, raising and logging of queries and tracking of outcomes.