Date: 31st January 2025

Mr Tony Leakey
Natural Resources Wales
Rivers House
St Mellons
Cardiff
CF3 0EY

Dear Mr Leakey

Re: Permit Number EPR/BS6149IQ Monitoring Returns

Please find enclosed a performance report for 2024 in accordance with Condition 4.2.2 of the Permit.

Should you have any queries please do not hesitate to contact us.

Yours sincerely,

[redacted]

Sustainability and Environment Officer
[redacted]

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:
(a) a review of the results of the monitoring and assessment carried out in accordance with the Permit including an interpretive review of that data
(b) the annual production/treatment data set out in Schedule 4 Table S4.2
(c) the performance parameters set out in Schedule 4 Table S4.3 using the forms specified in table S4.4 of that Schedule

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(a) a review of the results of the monitoring and assessment carried out in accordance with the Permit including an interpretive review of that data

Emissions to Air

(i) Continuous Measurements (A1, A2, A19)

ROCKWOOL OLICEM automated report has been fully implemented in 2024 and has replaced old quarterly reports. New CEMs equipment has been approved for installation in Q2 2025 to allow more robust reporting of air emissions and allow a duty standby on all lines due to loss of CEMs equipment in 2024 requiring production stopping.

Line 1 Cupola (A1)
Line 1 cupola (emission point A1) was operational for only 0 days in 2024.

Parameter	Line 1 Operational Days	No. of exceedances	% in Compliance
Particulate Matter	0	0	100
Oxides of Nitrogen (NOx)	0	0	100
Sulphur Dioxide (SO2)	0	0	100
Carbon Monoxide (CO)	0	0	100

Line 2 Cupola (A2)
Line 2 cupola (emission point A2) was operational on 291 days in 2024.

Total VLTA, Day							
Total	VD	ER	EN	NV	VA	VR	VP
366	291	291	75				

Total= days in the year VD= Valid data days ER= Environmentally reported days EN= Environmentally non valid days (not running)

ROCKWOOL UK
Line 2

Exceedances
Year report

2024

	CO	CO	NOx	NOx	SO2	SO2	Dust	Dust
	Discarded day	Day	Discarded day	Day	Discarded day	Day	Discarded day	Day
Month	> 5	> 100	> 5	> 500	> 5	> 2,200	> 5	> 10
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								
Sum:	0	0	0	0	0	0	0	0
Year to date per Dec 31, 2024:	0	0	0	0	0	0	0	0

Discarded days per	CO	NOx	SO2	Dust
Jan 1, 2024→Dec 31, 2024	0	0	0	0

Parameter	Line 2 Operational Days	No. of exceedances	% in Compliance
Particulate Matter	291	0	100
Nitrogen Oxides	291	0	100
Sulphur Dioxide	291	0	100
Carbon Monoxide	291	0	100

Emissions of nitrogen oxides, sulphur dioxide, carbon monoxide and particulate matter were within limits throughout this time other than the occasions described below. Note 0 exceedances listed for 2024 on line 2.

Line 3 Cupola (A19)

Line 3 cupola (emission point A19) was operational on 324 days in 2024. There was one non-valid, discarded reporting day in 5th august due to power loss to the system, however this was during line 3's summer shutdown so no data was lost.

Total VLTA, Day							
Total	VD	ER	EN	NV	VA	VR	VP
366	324	325	41	1			

Total= days in the year VD= Valid data days ER= Environmentally reported days EN= Environmentally non valid days (not running)

ROCKWOOL UK
Line 3

Exceedances
Year report

2024

	CO	CO	NOx	NOx	SO2	SO2	Dust	Dust
	Discarded day	Day	Discarded day	Day	Discarded day	Day	Discarded day	Day
Month	> 5	> 50	> 5	> 500	> 5	> 1,400	> 5	> 10
January								
February						1		
March						1		
April								
May		2						
June								
July								
August	1		1		1		1	
September								
October								
November								
December								1
Sum:	1	2	1	0	1	2	1	1
Year to date per Dec 31, 2024:	1	2	1	0	1	2	1	1

Discarded days per	CO	NOx	SO2	Dust
Jan 1, 2024→Dec 31, 2024	1	1	1	1

Parameter	Line 3 Operational Days	No. of exceedances	% in Compliance
Particulate Matter	324	1	99.7
Nitrogen Oxides	324	0	100
Sulphur Dioxide	324	2	99.4
Carbon Monoxide	324	1	99.7

Emissions of nitrogen oxides, sulphur dioxide, carbon monoxide and particulate matter were within limits throughout this time other than the occasions described below. Note of the four exceedances listed, all were determined invalid due to start-up or shut-down periods.

- The SO2 result was 1,427 mg/Nm3 on the 14th of February 2024. A19 Line 3 Cupola had an issue with the deSOx. There was low differential pressure in the filter of the desulphurisation plant (deSOx), and this resulted in SO2 readings climbing above permit limit at 13:00, as the required dosing was not achieved. Our MCERTS DAHS recorded 41 valid half-hourly average values. However, as proposed by our recent definition of a shut-down period, the final 3 half-hourly values should be considered invalid and discounted. The daily average value for SO2 for the remaining 38 valid half-hourly average values is then 1,369 mg/Nm3 - below the limit value. However, as the definitions have not yet been reviewed or accepted by NRW, we are submitting this Schedule 5 for completeness and transparency.
- The SO2 result was 1,417.9 mg/Nm3 on the 1st of March 2024 due to another issue with the deSOx plant. The issue with the deSOx, combined with the efforts to resolve the issue while running, resulted in the daily average exceeding the 24-hour limit.
- The CO result was 55.5 mg/Nm3 on the 30th May following start up on the 29th of May. The OLICEM REPORTLOQ shows two exceeded days in May, but the 29th of May was during startup in the evening. The CO levels were monitored and were under limit following spikes.
- The dust level was 18.1 mg/Nm3 on the 28th of December 2024. This was due to a malfunction of equipment; this was resolved and the dust level returned to below limit level.

(ii) Periodic Measurements

Periodic measurements are carried out by an external laboratory with MCERTS and ISO 17025 accreditation. A total of 199 triplicate tests (597 individual tests) must be carried out in a year.

A summary of 2024's performance is shown below (completed tests alongside the required tests in brackets):

Source *(Emission Point)*	**No. Triplicate Tests**	**No. Exceedances**	**Details of Exceedances**
Cupolas *(A1, A2, A19)*	14 (21)	0	
Spinning Chambers *(A3, A4, A21)*	24 (36)	0	
Curing Ovens *(A5, A6, A22)*	42 (42)	0	
Cooling Zones *(A7, A8, A23)*	36 (36)	0	
Pipe Section Machines *(A12, A13a, A13b, A13c, A14)*	30 (40)	0	
Dust Filters *(A9, A10, A11, A18, A24)*	8 (8)	0	
Cement Briquette Plant *(A25)*	6 (6)	0	

NB – 160 triplicate tests (480 individual tests) were undertaken in 2024:

- Line 1 Cupola (A1) and Line 1 Spinning Chamber (A3) did not operate in 2024. As a result, periodic testing could not be carried out for these sources in 2024.
- RSM3 (A13c) was decommissioned in 2021 and therefore not tested in 2023. A13c was removed from the permit in Q3 2023 following the most recent variation EPR/BS6149IQ/V011.

All other emission points were tested as per the requirements of the Permit.

(iii) Impact Monitoring

ROCKWOOL continues to monitor the ambient sulphur dioxide values in the local area by 2 different means: diffusion tubes and a continuous monitor. The continuous monitor is in Soar Chapel, downwind of the prevailing westerly wind.

Both methods typically show values of less than 10µg/m3, which is below the sulphur dioxide annual mean of 20µg/m3 in the Air Quality Strategy Volume 1 for the UK for the protection of vegetation and ecosystems (24 hour mean of 125µg/m3 for protection of human health). The diffusion tubes are located within a 2km radius in all directions from the factory.

From the Ambient SO2 monitor, the maximum values per quarter were as follows:

	Max 15-minute SO2 (ppb)
Q1	21.10000038
Q2	82.5
Q3	16.59999943
Q4	14.0999999

The diffusion tubes were removed from around site in April 2024 due to results being regularly below detected level and agreed by NRW. It was agreed that we would implement ambient dust monitoring off site, this will be continued to be investigated during Q1 2025.

The data is sent to Bridgend County Borough Council on an annual basis and is also presented to residents at regular meetings.

Following the noise survey undertaken in 2023, a noise model of site to identify the major sources of noise pollution on site and propose mitigation measure to reduce noise to neighbours. Funding has been allocated to install a noise barrier in Q2 2025 to the west of the site.

(ii) Training and engagement

Improved engagement and training across site in 2024 were an enormous success. Environment and energy induction refresher e-learning was rolled out and was completed by 320 employees. This followed environment days to raise awareness of the duty of the environment team and all workers on site. Job specific face to face training focusing on high-risk areas was rolled out in 2024, with focus on CEMs and surface water. There was both CEMs refresher training for all cupola staff and full day of training for Shift managers and SPC's to cover all environmental and energy issues. This has improved collaboration and site awareness of our permit and the importance of compliance.

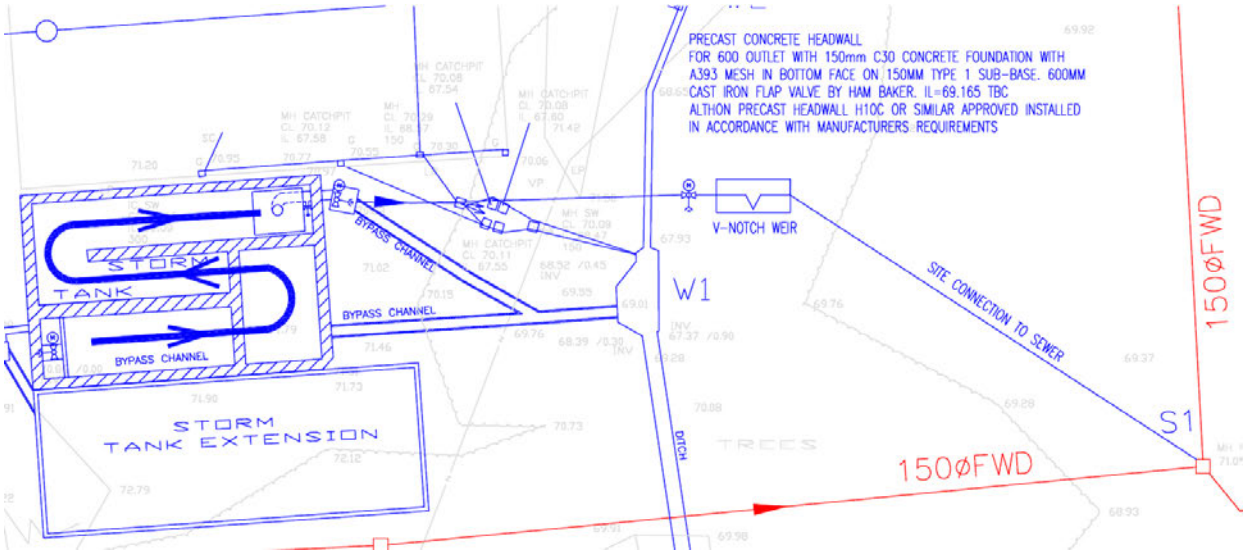
Community engagement meetings were held during 2024 and improved communication with neighbours throughout the year proved a success. Shift managers, technical director and Managing director have all spoken to neighbours following complaints and ensured any updates were passed onto them following complaints.

Emissions to Surface Water

(i) Daily Measurements

The Permit requires daily tests to be carried out on water leaving site to stream from emission points W1 and W2. W2 flows uncontaminated surface water but W1 is now only used as an overflow from the settlement tanks.

The settlement tanks discharge to sewer at emission point S1, see diagram below:



This discharge to sewer outlet now ensures that surface water to stream is kept at a minimum and only occurs on exceedingly rare occasions of continuous heavy rain and an overflow of the settlement tanks. Weekly water samples are carried out on the settlement tanks for compliance to our Welsh Water discharge to sewer consent for emissions point S1. Daily visual checks are carried out on W2 and logged on shift reports.

ROCKWOOL has been in contact with the supplier of water sampler to look at digitising more readings and setting up alarms to improve visibility and reactions times, helping to control water flow but stopping overflow to stream.

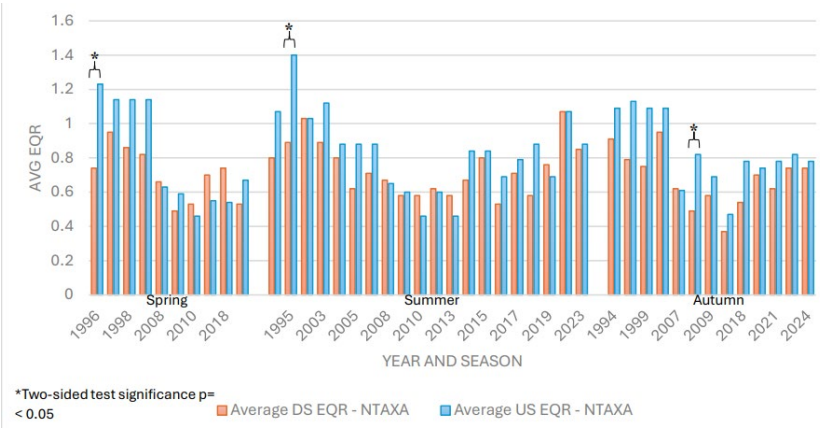
(ii) Monthly Measurements

In addition to the daily visual checks and weekly settlement tank samples (water being discharged to sewer) that are analysed in ROCKWOOL's own laboratory, a monthly stream sample can be sent to an external laboratory with ISO 17025 accreditation if enough have been released to stream. Results for ammoniacal nitrogen, phenol, suspended solids, COD, formaldehyde, and oil/grease can be provided.

(iii) Impact Monitoring

One Freshwater Invertebrate Study measuring the quality of the stream that emission points W1 and W2 discharge into was carried out by an external consultant in October 2024.

Conclusion from October sampling report, issued January 2024, as follows ‘A significant observation in 2024 is the parity between Downstream and Upstream classifications, with both sites achieving ‘Good’ for NTAXA and ‘High’ for ASPT. Historically, the Upstream site has typically outperformed the Downstream site, a common pattern in river systems where pollution and habitat degradation tend to increase downstream.’
A U-shaped graph shows decline and then an increase in recent years as shown in the graph below.

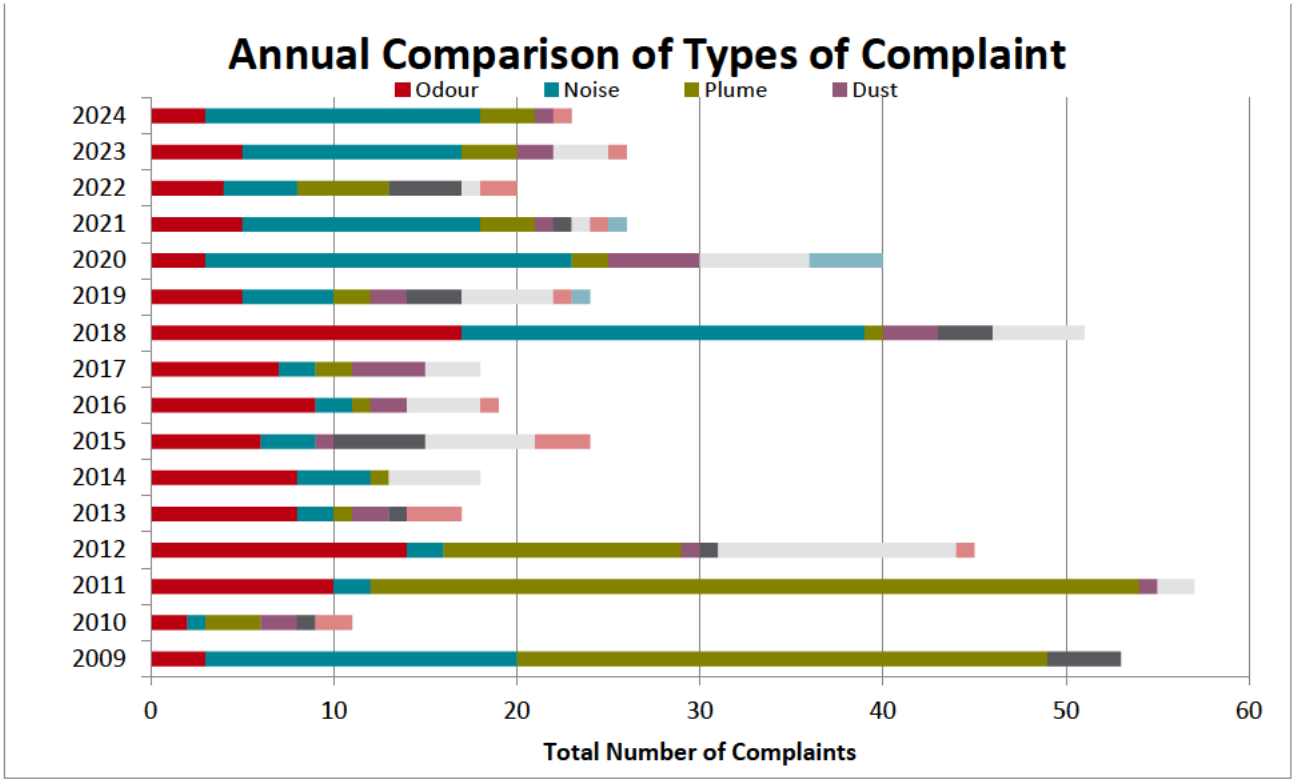


As a best practice going forward an annual Freshwater Invertebrate Study will be carried out, even if there are no discharges to stream.

Environmental Complaints

The total number of complaints received in 2024 decreased to 23 compared to 26 in 2023, but comparable to previous years and much lower than 2021.

See the annual comparison graph for complaints below:



Most of the complaints received in 2024 referenced noise (15), plume (3) and odour (3).

Noise monitors are used to investigate noise levels when a complaint is logged and produce a report that can help the investigation into the

All complaints are registered on an internal RockSHE system which aims to identify the root cause and allows the user to assign corrective actions. This is monitored by both ROCKWOOL Limited and our parent company ROCKWOOL Group.

Energy, Water & Waste

In 2024, ROCKWOOL Ltd maintained certification to ISO 14001 and ISO 50001.

Sustainability goals are a priority for ROCKWOOL, with monthly energy analysis (gas, electricity, and CO_2) and an associated internal report helping maintain the focus on these key areas.

Electricity consumption decreased in 2024 compared to 2023. Electricity efficiency across all lines did not improve on the previous year due to an increased number of lines stops and less production.

Gas consumption decreased in 2024 compared to 2023. Gas efficiency across all lines did not improve on the previous year due to an increased number of lines stops and less production.

Coke consumption and efficiency were lower than 2023 due to a less production and a change of supplier.

Site total CO2 emissions decreased in 2024 compared to 2023 due to less production but also due to energy efficiency drives such as improved burner maintenance to reduce gas consumption.

All energy efficiencies will continue to be monitored over the course of 2025 through weekly meter reads and monthly reports.

Water used in the process is supplemented where possible by rainfall, so mains water use remains as low as possible. There is also a dedicated process water storage room on site to store more water for reuse within the process. In 2024 our public water consumption increased compared to the usage in 2023, due to issues in the process and reduced rainfall in summer months.

No waste went to landfill in 2024, and new recycling laws introduced in Wales in April 2024, these were successfully rolled out across site using a single point lesson, environment day discussions, environment induction and refresher.

The “RockCycle” recycling scheme accepted 1,873 tonnes of stone wool from external sources (waste product and off-cuts) for on-site processing and recycling in 2024. This tonnage increased from the previous year, due to an increase in returns from customers. All wool returned to site is milled and then mixed with other materials to form a cement briquette. Cement briquettes are then melted with basalt and slag in the cupola to form completely new stone wool products. None of the returned wool is landfilled – it is all used to create new products. This is an offering which is highly rated by our customers as it assists them with their waste management plans. In addition, 1,594 tonnes of stone wool was included in the internal recycle of ROCKWOOL products.

The ROCKWOOL Group has established Sustainability Goals covering energy (CO_2), water and waste that apply to the global company with target date of 2030. Additionally, Group have supplemented existing sustainability targets with a decarbonisation goal that has been approved by the Science Based Targets initiative (SBTi). ROCKWOOL UK has aligned its targets accordingly.

(b) the annual production/treatment data set out in Schedule 4 Table S4.2

In 2024, ROCKWOOL produced 129,311 tonnes of mineral wool (as “NORM WOOL”)

(c) the performance parameters set out in Schedule 4 Table S4.3 using the forms specified in table S4.4 of that Schedule

The appropriate annual forms for water usage, energy usage, waste produced and recycled ROCKWOOL were sent to NRW on 31 January 2024.