

Compliance Assessment Report CAR_NRW0041039

Permit being assessed: BU2110IS.

For: Barry Site EPR/BU2110IS, held by Cabot Carbon Ltd

At: Barry Site Sully Moors Road , Sully, Penarth, Vale of Glamorgan, CF64 5RP.

Type of assessment carried out: Report/Data Review, Reason: Routine.

On 01/02/2023.

Parts of permit assessed: Annual Returns and Monitoring

NRW Lead Officer: Mostyn Wall.

Report sent to: Sian Llewellyn, Senior Quality & Environmental Specialist on 01/02/2023.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
C2 - General Management - Management system and operating procedures	Assessed (A)	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	Assessed (A)	
G2 - Monitoring and Records, Maintenance and Reporting - Records of activity, site diary/journal/events	Assessed (A)	
C3 - General Management - Materials acceptance	Action only (X)	

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
C3	Cabot to report back the root cause analysis of the primary feedstock quality issues.	28/02/2023

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

Cabot environmental objectives Permit Condition 4.1.5 – EMS update

Cabot submitted an environmental management system update to NRW on the 27.01.2023.

Progress towards Cabot's environmental objectives and targets are discussed at monthly leadership team meetings and/or monitored via the personal performance-based management process. The site scorecard is reviewed on a regular basis and the meeting and minutes/actions recorded and tracked. Environmental objectives from the occasionally form part of the site scorecard or they feature as a personal goal via the Performance Based Management program. These initiatives raise environmental awareness and help to drive continual environmental improvement across the site.

In June 2022 the site had a surveillance audit of our Environmental management system to check their continued compliance with the ISO14001:2015 standard. No non-conformances were reported. The auditors complemented Cabot on the quality of their EMS system and engagement of the employees.

Cabot has a continuous focus on reducing off quality production and 2022 saw a record low volume of off quality production with 21MT produced, equating to 0.18% of the annual production volume.

In 2022 Cabot experienced a significant quality issue with primary feedstock resulting in an increased amount of unsaleable material which was diverted to landfill. A Root Cause Analysis team has been working on identifying the cause and implementing preventative actions.

Action: Cabot to report back the root cause analysis of the primary feedstock quality issues.

Cabot Corporate Sustainability Goals

Energy Intensity. Cabot investigated energy intensity of the cooling water systems and resulted in a reduction in system loading and electricity consumption by pump systems

Community Engagement. Cabot asked employees to propose local schools, charities, or community groups in need of support and we received a lot of proposals. We were able to support

12 of those proposals in 2022 including

- Ukraine Crisis Appeal
- British Red Cross donation

- Football Team kit purchase for local girls' team
- The Gloves Are On- Funding for new Super Wellbeing Academy
- Llamau- support for homeless families at Christmas
- Holm Tower Hospice- donations
- Penarth district Guides association
- Woodys Lodge
- Rhws primary - Bee meadow
- Jenner Park Primary – Support for SEN class
- Cancer research UK
- Ty Hafan transition nursing services - two years funding totalling £84,000.

Diversity and Inclusion. Cabot have an Employee Resource Group (ERG) that discusses how Cabot can positively raise the profile of roles in manufacturing for women and to partner with local schools to raise the profile of our STEM roles, of Cabot and of our industry to girls who may be considering what subjects and what careers to follow.

Cabot Site Closure and Decommissioning

Permit condition 2.1.1 – Notwithstanding condition 2.11.1 of Cabot's Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.

Cabot have reviewed the 2019 closure plan and concluded that the plan remains applicable. NRW confirms that the 2019 plan complies with the permit regulations and that the closure plan will be reviewed again in 4 years' time.

Permit Condition 2.8 Accident prevention and control

Cabot submitted an Emergency Management Plan Review on the 30/11/2022 in accordance with permit condition 2.8. "The Operator shall maintain and implement when necessary, the accident management plan submitted or described in Section 2.8 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion".

The site has not had a major incident or release since the last review. However, there was a HCL release in Jan 2022 from a by-pass control valve. Cabot state that no personnel were injured and there was no environmental impact. Cabot will give further details and a root cause analysis as part of the fugitive release review to be submitted in March 2023.

Cabot have initiated several actions to improve the overall effectiveness of the Emergency Management Plan.

- Site wide evacuation drills and fire alarms. Test drills have been run in 2022 and

have found multiple actions to improve the response and workplace safety. For example the alarm in Admin Building was not heard and a mobile radio was available in the reception building.

- Contractor induction. The contractor induction training programme ensures all contractors on site undertake the annual induction training that covers emergency response including Toxic Gas Release and Main Site Assembly Alarm for fire. The system has been digitised and anyone wishing to attend site must read the PDF file by email then answer a series of SHE questions developed in Microsoft Forms.
- Chemical Complex Meetings – Cabot attends meeting with the Barry Chemical Complex to review the Vale of Glamorgan's local authority's off-site emergency plan.
- Plant Deluge System. Activation of the deluge system continues to form part of the annual site shut down to verify effectiveness of the system on an on-going basis.
- Flood Protection. In conjunction with local council and NRW flood risk team we have begun works to dredge the water overflow culvert that runs through the Cabot site. Having this water overflow course clear will help to reduce the likelihood of a major flood incident.
- COMAH Exercise – Cabot recently joined other chemical sites within the Barry complex in undertaking a major accident scenario, the scenario was run to ensure necessary measures have been taken to prevent such accidents and to limit their consequences for human health and the environment. The scenario related to a COMAH plant (Dow), which was intended to test the effectiveness of its internal emergency plan. The scenario involved communication to the public and to the services or authorities, how they intended to contain and control the incident and how to protect adjacent chemical plants. Cabot was invited as an observer and witnessed how all personnel reacted during this pressurized scenario including the use of the software 'Send Word Now' which is an emergency response system used by all neighbouring plants, including Cabot.

Cabot's review process and continuous improvement of the site's EMP is compliant with permit condition 2.8.1.

Q4 Report and Annual Emissions Monitoring

Cabot submitted their Q4 reports and annual emission monitoring to NRW on the 27.01.23 and are compliant with the permit ELV's.

Annual emissions to air 2022

A1 NO₂ result of 2.83 mg/m³ against a ELV of 50 mg/m³

A2 NO₂ result of 98.1 mg/m³ against a ELV of 200 mg/m³

A2 Carbon monoxide result of 13.5 mg/m³ against a ELV of 200 mg/m³

A3 NO₂ result of 142.4 mg/m³

A2 Carbon monoxide result of 12.2 mg/m³

A13 & A24 Formaldehyde result of 2.82 mg/m³ against a ELV of 100g/hr

Q4 Monitoring of emission point A1

- Chlorine had a result of 3.5 mg/m³ against an ELV of 10 mg/m³
- Chloromethanes had a result of 2.3 mg/m³ against an ELV of 50 mg/m³
- Hydrogen Chloride had a result of 0.6 mg/m³ against an ELV of 10 mg/m³

Q4 Monitoring of emission points W1, W2 & W3 are compliant with the permit ELV's for Oil and Grease, BOD and pH.

Q3 Report

Cabot submitted their Q3 reporting to NRW on the 27.10.22. and are compliant with the permit ELV's.

Q3 Monitoring of emission point A1

- Carbon Monoxide had a result of 1601 mg/m³ against an emission limit value (ELV) of 3500 mg/m³.
- Chlorine had a result of 1.69 mg/m³ against an ELV of 10 mg/m³
- Chloromethanes had a result of 3.36 mg/m³ against an ELV of 50 mg/m³
- Hydrogen Chloride had a result of 3.39 mg/m³ against an ELV of 10 mg/m³

Emissions to water at W1, W2 and W3 are compliant with the permit ELV's for Oil and Grease, BOD and pH.

Q2 Report

Cabot submitted their Q2 reporting to NRW on the 21.07.22. and are compliant with the permit ELV's.

Q2 Monitoring of emission point A1

- Chlorine had a result of 2.9 mg/m³ against an ELV of 10 mg/m³
- Chloromethanes had a result of 1.74 mg/m³ against an ELV of 50 mg/m³
- Hydrogen Chloride had a result of 6.3 mg/m³ against an ELV of 10 mg/m³

Emissions to water at W1, W2 and W3 are compliant with the permit ELV's for Oil and Grease, BOD and pH.

Waste, Water and Energy Use 2022

Cabot had a total waste of 231.9 tonnes in 2022 with 116.61 tonnes sent to landfill. Water usage in 2022 was 97,619 m³, the lowest recorded usage since records began in 2006. Energy usage and CO₂ produced was also the lowest compared to the previous years.

Cabot commented on 2022 environmental performance *"2022 represents a low year for production volumes with nearly 4000MT shortfall over previous years. The requirement to keep the operations running on heat load when not producing means our PI/MT are higher than previously reported. In addition, we had a significant quality excursion with our primary feedstock resulting in a large amount of off quality material being made with no outlet, this has resulted in a higher PI/MT for waste silica."*

Trends in Environmental Performance							
Year	Parameter						
	CO	Water	Energy	CO ₂	Waste silica	Chloro-silane	H ₂
	kg/t	m ³ /t	kWh/t	t/t	kg/t	t/t	Nm ³ /t
2008	29.05	13.2	10,670	1.3855	8.30	2.73	694.81
2009	30.61	11.3	10,817	1.3790	4.87	2.60	766.64
2010	40.41	10.2	9,900	1.2640	7.56	2.59	604.20
2012	37.28	13.2	10,356	1.2990	8.63	2.83	628.90
2013	21.31	10.80	7,262	0.7401	11.89	2.41	575.30
2014	21.69	9.04	7,011	0.7282	17.06	2.51	503.51
2015	20.63	8.98	6,910	0.7143	14.13	2.53	579.39
2016	22.90	9.41	7,273	0.7309	27.5	2.50	583.30
2017	21.30	9.58	6,324	0.5782	9.6	2.50	557.63
2018	27.29	9.62	6,663	0.6926	11.3	2.50	585.94
2019	24.48	11.40	7,002	0.69	10.2	2.82	583.14
2020	27.02	12.72	8,363	0.83	9.8	2.5	604.93
2021	24.95	11.04	7,536	0.74	6.9	2.5	550.08
2022	24.24	12.34	8,971	0.84	14.1	2.5	583.17

Response to CAR_NRW0039819

Cabot submitted to NRW a response to CAR_NRW0039819; *Action 1 Cabot 26th April 2022: Site to send EMS document for the classifying a spill and the sites notification procedure of a spill. What quantity or event is classified as significant fugitive spill that results in a schedule 5 notification being sent to NRW?*

Cabot submitted the sites EP5 spill response guide that details how to respond to a spill and BA-SHE-003 Incident classification matrix. There is a clear decision path that leads to a notification to NRW if one of the following outcomes are met.

- A release of material exceeds NRW permit emission limit
- Offsite impact to air quality, river pollution, groundwater contamination
- Failure to comply with Regulatory Environmental requirements

The response by Cabot closes the CAR action.

End.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):**A: Permitted activities**

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.