

Compliance Assessment Report

Report ID:
CAR_NRW0035136

This form will report compliance with your permit as determined by an NRW officer

Site	Barry Silicone Plant	Permit Ref	BR9685IX			
Operator/Permit holder	Dow Silicones UK Limited					
Regime	Installations					
Date of assessment	03/04/2019	Time in	10:00	Out	17:00	
Assessment type	Report/Data Review					
Parts of the permit assessed	Emissions, EMS, Monitoring					
Lead officer's name	Leakey, Antony					
Accompanied by						
Recipient's name/position	Judith Sartor/ Environmental Specialist	Date issued	20/05/2019			

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS Scores can be consolidated or suspended where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

Permit conditions and compliance summary	CCS Category	Condition(s) breached
B1 - Infrastructure - Engineering for prevention and control of emissions	A	
C2 - General Management - Management system and operating procedures	C3	1.1.1
E1 - Emissions - Air	A	
E3 - Emissions - Surface water	A	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	A	

KEY: See Section 5 for breach categories, suspended scores will be indicated as such.

A = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only,

O = Ongoing non-compliance, not scored.

Number of breaches recorded	1	Total compliance score (see section 5 for scoring scheme)	4
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If the Number of breaches recorded is greater than zero, please see Section 3 for our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- The part(s) of the permit that were assessed (eg. Maintenance, training, combustion plant, etc)
- Where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- Any non-compliances identified
- Any non-compliances with directly applicable legislation
- Details of any multiple non-compliances
- Information on the compliance score accrued inc.
- Details of advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

Dow Silicones UK Ltd reporting review and Site Visit Report - 3/4/19

Operator Monitoring Assessment follow up

The OMA for water emissions found that a critical element relating to composite sample integrity and preservation was inadequately managed. The composite sampler temperature control was found to be defective and there were no checks in place to ensure that temperature control failure is detected. The composite sampler has now received a full supplier service and is subject to monthly checks, including temperature of the enclosure. As samples are taken more frequently than monthly a daily temperature check may be more appropriate.

ACTION: Dow Silicones to consider implementation of a daily composite sampler temperature check and provide an update at next site meeting.

Hazardous waste audit follow up

Historic waste WM2/3-based categorisation reports should be available for the following mirror entry non-hazardous wastes:

- DPR to landfill as 070217 MN
- Spent catalysts Alumina RAR to landfill as 160803 MN
- Shot blast to landfill as 120117 MN
- Equalising tank cleanout as 070217 MN

These reports are required to complete this audit.

ACTION: Dow Silicones to provide historic waste WM2/3-based categorisation reports.

Pressure relief impact assessment

The Dow Chemical LOPA tool will be used to assess main reliefs at Barry and W941 study is due. This will be followed up through the current COMAH intervention plan. A joint exercise involving the Air Quality Cell arrangements for major incidents based upon a Dow Silicones pressure relief scenario is proposed and NRW will provide more details when planning starts.

W922 MeH cyclics process scrubber HCl release

The acetoxy process is to be decommissioned so no further action is necessary in respect of vent fridge interlock investigation.

W1 waste water methanol excursion

A backup DO probe is to be installed, although there is potential for vulnerability of the PLC to failure and obsolescence may cause problems with repair. A significant analyser system upgrade project is planned. Vulnerability of WWT to climate extremes and toxic load needs to be considered. These aspects will be picked up during permit review for Bref and detailed WWT audit planned for later this year.

ACTION: Dow Silicones to provide updates as necessary.

ERU dioxin emissions

Monthly monitoring of dioxin/furan emissions has continued, and all results remain in compliance. Scrubber packing replacement with ADIOX absorption internals is planned for the end of 2019. It is anticipated that this additional abatement might reduce emissions to well below any Bref AELs that might be introduced by the WGC Bref.

Progress reviews will be held until final actions have been implemented.

ACTION: Dow Silicones to provide an update as necessary.

ERU oxygen reference values

Dow Silicones have noticed a possible discrepancy regarding oxygen reference values for reporting ERU emissions, which historically have been reported at 11% oxygen, but the current PPC permit seems to require 3%.

Examination of the determination history indicates that the intent was to retain the original IPC permit ELVs *and* reference conditions. However, this is not reflected in the permit as the ELVs for the ERU do not have the footnote replicated from the IPC authorisation emissions table.

Technically the correct oxygen reference conditions for the ERU should be 3%, as the fuel is gaseous rather than a non-homogenous liquid or solid waste stream, and this is effectively what the permit currently requires. It is noted that the ERU generally operates at 6-7% oxygen and some recent Brefs have stated BAT AELs at 11% for thermal oxidisers, others 3%.

Pragmatically there is no benefit in moving to a different oxygen correction at this point in time and **ERU emissions should continue to be reported at 11% oxygen** until the IED permit review when a fresh look at ELVs and reference conditions can be undertaken in light of the relevant Bref.

WWT plant

An overview tour of primary and secondary waste water treatment plants was undertaken in preparation for a proposed in-depth audit later in the year. Two issues were noted. Firstly, an inlet line to one of the E-tanks was found to be leaking inside the tank, but effluent was spraying out of the open tank top and had caused corrosion of a valve handwheel to the extent that around 30% of the perimeter and corresponding spokes was missing. This is considered as primarily a health and safety matter rather than posing any potential for environmental impact. However, the condition of the plant may be indicative of deterioration of the assets and potential under-performance.

This observation is borne out by the second issue noted which relates to floating suspended solids and potential impact on effluent discharge quality.

The primary treatment solvent separator operation is affected by carry over of floating solids from the spent bed quench facility. This issue is potentially transmitted right through the WWT plant to the clarifiers where fine surface solids were noted. On one clarifier the scum discharge line was blocked preventing floating solids being removed and potentially allowing discharge with the clarified effluent. Large floc particles were noted in the final effluent tank and seen in the final effluent composite sampler inlet during a sample cycle, although none ended up the final sample.

These issues and, in particular, the blocked scum discharge line may result in discharge of large floc particles that may not affect final effluent suspended solids or metals analysis but could result in undetected discharge of metals and other pollutants associated with the particles. It is understood that work is planned to address the carryover from the quench process. However, it appears that inspection and maintenance of potentially critical WWT operational functions like clarifier scum removal may require improvement. The potential for significant impact associated with the floc particles is likely to be limited as gross carryover would be expected to be detectable in the final effluent samples. Therefore, the blocked scum line is considered a minor category 3 breach of permit condition 1.1.1 in relation to failure to maintain plant in good operating condition. A review of WWT critical functions inspection and maintenance should be undertaken to ensure that such issues are prevented or detected as soon as practicable.

ACTION: Dow Silicones to undertake a review of WWT critical functions inspection and maintenance and provide an update at next site meeting.

Monitoring returns and notification review

Monitoring data for Q4 2018, the annual report for 2018 and Q1 2019 has been reviewed and no breach of permit conditions was identified other than those already addressed in previous correspondence. The increasing trend for chloromethane, methane and non-methane hydrocarbons for the site is noted in the context of reducing hazardous waste production. However, the balance should be kept under constant review taking into account overall best environmental outcomes.

Commercially confidential data reporting

The permit currently requires reporting of performance data based upon unit output as well as absolute parameters such as water use. The unit output data is commercially confidential because it allows production rates to be inferred. This leads to annual application for commercial

confidentiality agreements that must be renewed every 4 years. This data can readily be reviewed on site and so to reduce administrative burden **NRW will discontinue the requirement for reporting of performance data based upon unit output** pending reporting changes during the permit Bref review. Note that reporting of absolute performance parameters is still required, and the unit output data should be compiled and retained on site for review.

END

EPR Compliance Assessment Report

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Operator/Permit holder	Dow Silicones UK Limited	Date	03/04/2019

Section 3 – Enforcement Response

You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

Criteria Ref.	CCS Category	Action required/advised	Due Date
See Section 1 above			
C2	C3	Dow Silicones to undertake a review of WWT critical functions inspection and maintenance and provide an update at next site meeting.	01/12/2019

Section 5 – Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- Advise on corrective actions verbally or in writing
- Require you to take specific actions verbally or in writing
- Issue a notice
- Require you to review your procedures or management system
- Change some of the conditions of your permit
- Decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and/or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- Ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- Ensure you comply with other legislative provisions which may apply

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance that could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General information

Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- Offering/providing you with its literature/services relating to environmental matters
- Consulting with the public, public bodies and other organisations (eg. 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 its service
- Freedom of Information Act/Environmental Regulations request

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within fifteen working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with officer's line managers using the informal appeals procedure. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00 – 18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.