Compliance Assessment Report

Report ID: CAR_NRW0020660

This form will report compliance with your permit as determined by an NRW officer					
Site	Barry Site EPR/BU2110IS	Permit Ref	BU2110IS		
Operator/Permit holder	Cabot Carbon Ltd				
Regime	Installations				
Date of assessment	14/06/2016	Time in	N/A	Out	N/A
Assessment type	Report/Data Review				
Parts of the permit assessed	Fugitives, EMS & Previous Actions				
Lead officer's name	Kemp, Andi				
Accompanied by					
Recipient's name/position	Paula Lloyd/ Plant Environmental Manager	Date issued	14/06/2016		

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. 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**

KEY: See Section 4 for breach categories, suspended scores will be indicated as such.
A = Assessed or assessed in part (no evidence of non-compliance), **N** = Not Assessed, **X**= Action only

Number of breaches recorded	**0**	**Total compliance score** (see section 5 for scoring scheme)	0

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

Cabot Carbon Compliance Assessment June 8th 2016

Purpose of Compliance Assessment

In January 2016 a CAR1 form was raised and contained 1 action relating to emergency procedures. In March 2016 another CAR1 form was raised that contained two actions. See below.

The regulatory officer has also assessed two annual responses from the operator: fugitive emissions review and the improvement targets linked to the EMS. A discussion took place and correspondence exchanged about the EU BRef BATc and likely permit review timetable – see email attached to NRW files.

Action 1 Cabot Barry – 15th Jan 2016: *Cabot to provide a copy of the reviewed EP14 and describe the actions and procedural changes as a result of the On Call Management training from May 2014. Due: 31st Mar 2016.*

Action 1 Cabot Carbon 09032016: *Confirm if there are level alarms on the tank concerned and if so what volume and / or rate of loss triggers the alarm, i.e. sensitivity and tolerance. Due: 30th April 2016*

Action 2 Cabot Carbon 09032016: *Confirm what concentration the HCl monitors alarm at and / or what the operators in the control act upon if the monitors pick up HCl at levels likely to be caused by leaks as opposed to PTFE permeation vents; how do these trigger concentrations compare to ambient concentrations due to vent hole emissions. Due: 30th April 2016*

The operator responded within the timescales and it is these responses that are assessed in this CAR1 form.

Action 1 Jan 2016

Submission made by operator on 30th March 2016 and included the revised EP14 – excerpt from Cabot Emergency Plan.

NRW accepts the response as satisfying the action and is satisfied that the operator has adequate documented emergency response plans and arrangements. See attached email correspondence discussing calculations on the containment capacity for firewater and the NRW notification timing and number to use. Action closed.

Action 1 Mar 2016

The operator provided a written response on 18th Apr 2016.

The operator confirmed that due to variable feed rates into and flow out of the tank, rate of change cannot be ideally monitored to indicate if there is an issue, i.e. loss due to loss of containment. There are however three alarm monitors on the D13 caustic tank: 90% tank volume high level alarm, based on level monitoring; another 90% alarm, but based on pressure differential; and a low level alarm, which trips to prevent dry running of the pump to process.

Based on the system described above and associated maintenance and in conjunction with the process control capabilities, evidence of which was submitted for assessment in the Oct 2015 CAR1 (read outs of tank levels, calculations of amount lost and secondary containment), NRW is satisfied that the site is not likely to suffer catastrophic losses due to poor equipment, poor primary containment and maintenance, lack of secondary containment, poor process control and surveillance – as long as the good practice exhibited thus far remains in place and maintenance programs are supported by capital expenditure proposals where needed, based on preventative risk based maintenance inspection programs and codes of good practice. It is also noted that the level lost accounts for only around 1.10% of tank contents volume.

NRW would add these comments for consideration: *the read out supplied in Oct 2015, showed that as pumping to the process stopped, the level in the tank remained horizontal until the level started to decrease from 16:52, 30th July, then approximately 16hrs later an operative noticed the leak out on the plant around 08:30 31st July – given that the level graphic supplied showed a decrease in tank level, should that have triggered someone to physically look at the situation then? The key question is, at what rate of loss would someone physically inspect the area for leaks / loss of containment?*

Action 2 Mar 2016

The operator supplied a response on 18th April 2016.The response states that at 5ppm of HCl detected at any single monitor, an alarm is raised in the control room, prompting an operative to investigate the acid plant for leaks. If three monitors alarm at 5ppm the same applies and additionally people on plant are notified due to potential danger – the UK STEL is 5ppm (8mg/m3). When 5 monitors alarm at 10ppm, the deluge system is activated. HCl fume is heavier than air and highly soluble and water deluge systems are usually effective in washing fume from the atmosphere.

NRW accepts this response and the alarm set up should ensure that no pollution is caused by a leak of HCl gas. The permit ELV for HCL from the main stack is 10mg/m3 (annual average), so it is highly unlikely that any release from fugitive sources and leaks will: i) go unnoticed and ii) have an effect on the environment, given that the permit ELV is based on the immediate ground level concentration of HCl from the stack emitted at the calculated volumetric flow rate more or less continuously. Therefore any 5ppm leaks, quickly identified and acted upon should be protective of the environment.

Annual Fugitive Emissions Review for Year 2015

In June 2015 the RO made one recommendation concerning identification and estimation of fugitive emissions and their sources. This was embellished after the Oct 2015 inspection and written up in the CAR1 for that inspection issued in Mar 2016.

The operator submitted their annual review on 30th Mar 2016 and this review is assessed here in light of the previous recommendations.

The response acknowledges NRW recommendations and will review and build in additional elements if required on an ongoing basis. The operator knows what substances are held and in which phase and their potential loss pathway. Taken at face value the reporting of all incidents seems to be leading to more reports, but this extra surveillance is leading to fine tuning of procedures and therefore less mass lost. The permit application indicates that there are no significant potential fugitive emissions (assuming BAT is carried out: inspection, maintenance, correct equipment, better seals and gaskets etc.) that require routine quantification, e.g. estimates of mass of HCl lost through weeping or other volatile substances escaping from seals, flanges and tank vents. As long as the activities and substances used does not change, there appears to be no reason why quantification of these passive fugitive emissions needs to be carried out at this time.

This is different to losses identified and reported through incidents etc. as described on the table in the review – these do need recording in addition (if required) to passive losses, i.e. continual loss of volatiles – but as mentioned Cabot do not appear to have any sources of significant ongoing releases.

Of particular note from the review are the following points:

- A list of substances lost and quantities, root cause investigation and solutions
- Fumed silica accounts for the most lost in mass
- A summary of continual improvement effort; including an analysis of whether the caustic soda leak of 2014 could be repeated – conclusion = no, due to improvements implemented
- Cabot noted NRW recommendation to assess losses of all potential fugitive emissions against an inventory of substances and their uses
- The ASH monitors have alarmed on a number of occasions leading to repairs to stop HCl leaks
- A 32% HCl leak through a damaged GRP pipeline joint
- Double mechanical seal required on P-25A – ongoing phase in of double mechanical seals
- Waste solvent glass bottle shattered in cupboard, so storage arrangements changed
- Environment Manager walk around identified contractors not following defined work

procedures and not reporting or dealing with a minor oil leak

- Possible valve not closed tightly enough on kit operated mainly by third party

NRW offers these comments:

- There is a history in industry of GRP infrastructure being installed and partially forgotten and not undergoing the more rigorous surveillance that metal containment / transfer systems benefit from. GRP can easily be damaged and it is known that acid leaks can permeate the laminated layers of GRP pipes, especially if the fabrication and installation engineering is not sufficiently high in quality and / or damage during use – as there is an element of fragility to this type of equipment. Typically for strong HCl solutions, the temperature of the fluid should be below 65.5 deg C

- The programme of seal replacements on the acid plant with double mechanical seals (as described in the Oct 2015 CAR1) is encouraged given the number of minor leaks

- The operator should be aware of possible compatibility issues when storing waste chemicals in the overall waste drum

NRW accepts the 2015 fugitive emissions review

2015 Annual EMS Targets Review

In the CAR1 issued in Jan 2016 the RO made a recommendation concerning targets and identifying and recording progress against areas for potential improvement of environmental performance.

NRW accepts this review of performance in 2015, but adds the following comments, which may be followed up on during routine compliance assessment work 2016 / 17:

- This may be in the setting of targets procedure the operator mentions in the introductory letter accompanying the annual review, but ideally the regulator would like to see evidence of the broad subject areas considered for setting environmental performance improvement targets – out of these subject areas would drop out specific targets – the links to significant environmental aspects should be described. This makes it obvious why a target has been selected and would indicate how significant the goal is

- ISO 14001 requires several management interventions at different stages of the sites lifetime: (i) initial environmental review – scopes out 14001 in terms of where it sits with a particular site and its activities – significant environmental aspects and impacts amongst other things; (ii) regular audits (conducted by EMS leadership group) of particular aspects of site performance; (iii) annual management review – spot checks where the site is with its

performance improvement targets. The RO would like to see the records of management overview and decisions around improvement targets set – during routine compliance 2016 / 17

- Whilst it is acknowledged that an element of subjectivity exists in terms of how and what a RO may want to assess in the sites EMS targets and progress, and notwithstanding the limitations of the permit condition, ideally evidence should exist that clearly shows over a defined rolling schedule, what targets have been set and why, what progress has been made, what has been delayed, carried over or abandoned and why. This allows overall progress to be visualised at a glance and it should indicate at what time interval a particular aspect should be revisited. In fact one philosophy to adopt within the overall target identification and setting procedure, is to highlight what environmental performance areas and potential targets are: (i) one off; (ii) revisited within a set (aspect dependant) timescale; (iii) revisited annually

Of particular note in the submission for 2015 are:

- Permit requirement awareness training ongoing and via new starter inductions

- Reduction of waste to landfill and waste / off spec production

- NRW encourages these improvements.

END

Cyfoeth Naturiol Cymru Natural Resources Wales	**EPR Compliance Assessment Report**	**Report ID: CAR_NRW0020660**

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

Site	Barry Site EPR/BU2110IS	Permit Ref	BU2110IS
Operator/Permit holder	Cabot Carbon Ltd	Date	14/06/2016

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.

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.

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			

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 reports should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty 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.