

	EPR Compliance Assessment Report	Report ID: BU2110IS/0255762			
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	15/01/2016		Time in	10:00	Out 16:00
What parts of the permit were assessed	AMP, EMS, ROUTINE MONITORING, CLOSURE PLAN, ANNUAL PERFORMANCE DATA, IP22				
Assessment	Report/data review	EPR Activity:	Installation: X	Waste Op:	Water Discharge:
Recipient's name/position	Paula Lloyd, Plant Environmental Manager				
Officer's name	Andi Kemp		Date issued	15/01/2016	

Section 1 - Compliance Assessment Summary					
This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). 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					Condition(s) breached
a) Permitted activities	1. Specified by permit	A			
b) Infrastructure	1. Engineering for prevention & control of pollution	N			
	2. Closure & decommissioning	N			
	3. Site drainage engineering (clean & foul)	N			
	4. Containment of stored materials	N			
	5. Plant and equipment	N			
c) General management	1. Staff competency/ training	N			
	2. Management system & operating procedures	A			
	3. Materials acceptance	N			
	4. Storage handling, labelling, segregation	N			
d) Incident management	1. Site security	N			
	2. Accident, emergency & incident planning	A			
e) Emissions	1. Air	A			
	2. Land & Groundwater	NA			
	3. Surface water	A			
	4. Sewer	NA			
	5. Waste	A			
f) Amenity	1. Odour	N			
	2. Noise	N			
	3. Dust/fibres/particulates	N			
	4. Pests, birds & scavengers	N			
	5. Deposits on road	N			
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	A			
	2. Records of activity, site diary, journal & events	N			
	3. Maintenance records	N			
	4. Reporting & notification	A			
h) Resource efficiency	1. Efficient use of raw materials	A			
	2. Energy	A			
KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk), A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable, O = Ongoing non-compliance – not scored					

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0
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If the Total No Breaches is greater than zero, then please see Section 3 for details of 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 (e.g. 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 suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and normally completed within 14 days of an assessment.

Compliance Assessment: Cabot Carbon, Barry (BU2110IS)

Purpose of Compliance Assessment

This compliance assessment report (CAR1) covers the following regulatory activities and assessment of submissions from the operator:

- Routine monitoring and reporting submissions
- Annual Environmental Management System (EMS) improvements review
- Accident Management Plan review (every 2 years)
- Site Closure Plan review (every 4 years)

Also included in this assessment is:

- Feedback on operator query: Site Protection and Monitoring Programme (SPMP)
- Formal close out of Improvement Item IP22

Routine Monitoring and Reporting – permit conditions: 2.10.1, 2.10.2, 4.1.2 & 4.1.3

The operators permit includes a number of conditions relating to emission points, emitted substances and their release limits and reporting of the monitoring of emissions and performance of the plant.

The routine submissions received and assessed here are:

- Quarterly reporting of emission points to water: W1 – W3 incl. and air emission point A1
- Annual reporting of A1 (Chlorine only), A2, A3, A13, A24
- Annual performance parameters: water and energy usage and waste recovered / disposed

The periods covered are: Jan – Mar 2014, Apr – Jun 2014, Jul – Sep 2014, Oct – Dec 2014, Jan – Mar 2015, April – June 2015 and Jul – Sep 2015. The annual reporting of year 2014 is also included.

Routine Monitoring data

6 monthly data for emission point A13 for formaldehyde

Correction to value submitted (g/hr not mg/m³) for 2013 on 31st Jan 2014 – the results for each six month period are compliant.

Jan – Mar 2014

Compliant - note report received two days beyond the 28th of the end of the quarter – no non compliance will be raised for this on this occasion. See comments at the end of this section re. zero results for continuous CO monitoring.

Apr – Jun 2014

Compliant - see comments at the end of this section re. late reporting and zero results for continuous CO monitoring.

Jul – Sep 2014

It was noted by the operator that an alternative monitoring method for HCl (as described in EA guidance M2 and M22) is given (FTIR) and the permit should be updated. Changes to monitoring methods are common and often this leaves older permits quoting the former methods. The regulator will allow the operator to use the former methods as described in their permit, until the method is formally withdrawn or replaced – but the regulator expects the operator (via their monitoring contractor for example) to use the most up to date methods in most situations, unless there is prohibitive cost or other implementation issues, irrespective of what the permit says – this will lead to better scores under the Operator Monitoring Assessment (OMA) scheme. In this case the V007 variation of Aug 2015 has updated Table 2.2.2 of the permit to quote this method as an alternative for monitoring gaseous HCl.

The operator also gave advanced notification that the recent dry weather led to no samples of the surface water emission points: W1, W2 and W3. The permit requires one quarterly spot sample at each of the three locations – as long as the operator cannot retrieve a sample during the whole quarter, zero results could be valid.

Recommendation 1 Cabot Barry - 15th Jan 2016: The operator should ensure their management system and any related in house procedures for monitoring have capacity to ensure that the site monitors situations like this so that they can deploy a sampler at short notice to retrieve a sample at any time during the quarter rather than submitting a zero result, unless unavoidable due to absolutely no flow to sample.

The air results were compliant and there were far fewer zero results for the continuous CO monitoring.

Oct – Dec 2014 and annual returns

All air (quarterly, 6 monthly and annual) and water emissions reporting has been completed and compliant where there are ELVs.

Waste performance form R1 – The waste figures do not show any obvious positive or negative trends. Although from 2014 figures not insignificant quantities of both hazardous and non hazardous waste has been recovered – this aspect will be looked at in future regulatory work, building on the previous (2008 and 2012) waste minimisation reviews (permit condition: 2.4.1.2) – the next review is due 2016.

Recommendation 2 Cabot Barry - 15th Jan 2016: The operator should prepare to review their previous work with a view to making a submission by the end of 2016 (for waste and water use) – this may be a review of the audit methodology and progress against any previous or revised (as a result of the audit review) action plan and its implementation.

Water use form WU1 does show a trend in decreasing use – this is welcomed and as per

recommendation 2, the operator is encouraged to assess potential areas for improvement as per the permit conditions or at any opportunity where changes to site operations could be made.

Form PI1 shows the key metrics as use / emissions / tonnes, per tonne of product produced; this shows decreasing CO, CO₂ emissions p/t, stable chlorosilane and hydrogen emissions p/t, decreasing water and energy use p/t. There is a note to explain out of date silica increasing the waste to landfill figures.

Overall the plant performance is going in the right direction and NRW looks forward to assessing any new or revised waste production and water use minimisation initiatives in 2016. There were several original improvement items when the permit was issued requiring investigation into and assessment of the feasibility and effectiveness of initiatives leading to more efficient water and electricity use – no doubt these responses have partly shaped the most recent audits and areas to explore and should provide a basis for structured audit and assessment of these areas.

Jan – Mar 2015

All results compliant and submitted by 28th April.

Apr – June 2015

A1 for continuous CO is compliant for results given, but there are 17 days with zero results, mostly consecutive: 9th – 24th June.

All other air emissions compliant along with the water results.

Jul – Sep 2015

This is the first quarter where the CI ELV has reverted to 10mg/m³ (from 20mg/m³) in line with the BRef – however, the result for the first year is based on the final response to IP24 as communicated to the operator on CAR1 BU2110IS/0242621, 24th June 2015. Compliance will be based on an annual average for the first year. Jul – Sep 2015 (average based on 5, 30 minute consecutive samples) results are below the 10mg/m³ ELV. All other air emissions results are compliant.

The water results are also compliant.

Summary

All results (2014 – 2015, excluding Oct – Dec 2015 – not due until 28th Jan 2016) were compliant; the operator just needs to ensure that the reports are submitted within 28 days of the end of the reporting period; explain the zero results for continuous CO monitoring and consider the two recommendations above.

Action 1 Cabot Barry – 15th Jan 2016: Operator to explain the zero CO monitoring results.
Due: 31st Mar 2016.

Annual EMS Review – permit condition 4.1.5

The operator made a response on 21st Jan 2015 for CY 2014. This response is a succinct overview of what has happened in 2014. NRW accepts this response as an accurate record of progress against defined objectives for 2014.

Although not required directly by the permit:

Recommendation 3 Cabot Barry - 15th Jan 2016: The operator (if they are not already doing this) should also have a longer rolling programme of environmental improvement potential subject matter. Such areas would likely be based on compliance history and recommendations, incidents, BSI 14001 inspections, changes within the Cabot organisation, legislative and technology changes – all these could provide opportunities for new aspects to be assessed or

revisit previous work and should be closely linked to the significant environmental impacts and aspects identified within the EMS.

NRW would also expect to see documented internal management reviews and internal audits on environmental performance and any improvement implementation from this.

Accident Management Plan Review 2014 – permit condition 2.8.1

The AMP should be reviewed every two years or after an incident, whichever is sooner. The most recent review AK can find on NRW records, ahead of this 2014 review, is one submitted to NRW (then EA) on 30th Nov 2012 – Tony Leakey wrote a CAR1 covering this submission with an action to supply the EP14 (firewater management) and EP6 (flood emergency plan) Cabot internal procedures. A subsequent CAR1 assessed these documents and required the firewater procedure to be reviewed, in particular to ascertain if all firewater runoff events could be contained on site; not to stipulate a sacrificial area for disposing of firewater and to confirm if tankers could be deployed in time to deal with spill / loss of containment events.

Cabot submitted a 2014 review on 28th Nov 2014, this is a summary document describing what activities have taken place and any changes or improvements made.

NRW will build an element of this permit conditions requirements into the coming regulatory year, specifically following up on the action requiring review of EP14.

In addition to EP14 review required above, the 2014 AMP review mentioned actions and procedural changes implemented as a consequence of the May 2014 On Call Management training.

Action 2 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.**

When NRW produces the Compliance Assessment Plan for Cabot Barry 2016 - 17, the area linked to AMP will involve on site verification by the regulator of certain critical aspects of accident management, specifically: ensuring adequate size and format of drawings of the site layout, emission points, bulk storage, hazardous substance storage, drainage routes, nearby receptors, toxic haven, emergency response muster points and incident command locations.

NRW is pleased to see that among the various EP procedures, separate plans exist for flooding, severe weather and freezing temperatures. It is also encouraging to know Cabot participate with the adjacent chemical sites in the overall Barry Chemical Complex emergency plan and exercises.

NRW also acknowledges that Cabot prefer to use the term Emergency Management Plan instead of Accident Management Plan (as per the permit and application documents), because this makes it clearer to employees that emergency planning includes preventing, reducing and mitigating on and off site consequences to the environment.

Site Closure Plan Review Nov 2014 – permit condition 2.11.2

The most recent review ahead of this 2014 review was submitted in Nov 2010 and this in turn was built upon a response to IP9 (submit a Closure Plan) that was submitted in Nov 2006. The 2014 review concludes that the content and format of the original Closure Plan remains valid and extant.

Even though it is clear enough that the main document to refer to in the event of closure, is this

2006 submission, the document could benefit from better document control, including, date, dates of reviews and / or amendments, version number, document reference number, author and signed off by (senior manager or whatever level of delegated authority can do so).

Cabot have understood the broad event sequence that is important post cessation of permitted activities, in addition to highlighting the overall objectives of the plan. Namely: removal of potentially polluting materials, remediation of soil / sub surface environment, testing of soil and groundwater. The important things to remember that NRW have found out during previous closures of installations amongst other are:

- Sampling and testing of soil and groundwater to prove no deterioration against the original site baseline / condition report, must be done after all potentially polluting activities and equipment have ceased and been removed.
- Care must be taken not to damage any sampling boreholes when the site is open to 3rd party contractors and demolition activity; especially burying boreholes; pollution from mobile generators fuel; transport of substances via a non sealed or redundant boreholes acting as a pathways to receptors.
- Maintaining morale and staff competence as the site closes, especially as new and untested procedures may be carried out, compounded by people not usually performing those roles in potentially stressful and difficult circumstances.

The Closure Plan (or parts of it) would be invoked at the cessation, temporarily or permanently, of permitted activities, even if this does not result in permit surrender. The site should refer to EA RGN9, site surrender and the tests required to be satisfied.

Typical Hazop studies will not be sufficient in scope to fully address potential issues at the time of closure, decommissioning, demolition and permit surrender. The order in which equipment and plant is let down and emptied and cleaned so as not to cause pollution is critical. Loss of power and generation of unused raw materials and unprocessed waste streams and their storage needs to be considered in detail. The design ethos to stress is to consider maintenance, repair and decommissioning of infrastructure at the design stage by employing above ground systems and replacing older, potentially suspect equipment as the site ages.

As there are no plans known to close the Cabot Barry site, the 2006 plan is deemed adequate on the most part for describing in enough detail how Cabot Barry will approach closure, decommissioning, demolition and permit surrender. The site manager has signed off this document. The comments above are to offer some general guidance from the regulator.

Recommendation 4 Cabot Barry - 15th Jan 2016: Operator to consider a section in the Closure Plan on how cessation of activities will affect linked plants, e.g. Dow Corning and vice versa, with the appropriate detail included in the relevant site closure plan – depending on who is closing and who could be affected.

SPMP Submission and Query Jan 2015

On behalf of Cabot Carbon Barry, URS produced a review of the current SPMP format and scope. This was submitted in Jan 2015 with impending IED changes in mind. This is a useful report and will no doubt be referred to in the future.

In the meantime, in line with EA policy and communicated to operators in 2008, in accordance with the latest H5 Site Condition Reports and RGN9 Surrender, the site must implement a robust lifetime records approach with regard to ongoing protection of land and groundwater. This in effect can be done through existing management systems processes, e.g. site zoning around

relevant hazardous substances transfer and storage, planned preventative maintenance of critical kit and infrastructure, documenting incidents and their clean up, documenting site remediation. No groundwater or soil sampling will be required (as long as the regulator is satisfied that the lifetime records approach adopted and implemented by Cabot is adequate) until such time as IED varies the permit. However, NRW would caveat this in as much as accepting Cabots proposal to conduct the next round of GW samples in 2017 (5 years on from the last full round, 2012). IED will be introducing mandatory 5 year groundwater sampling and 10 year soil sampling through the BRef BATc permit review timetable – although permit reviews in the chemical sector are still some years in the future, hence NRW endorsing the 5 year (2017) sampling of groundwater.

IP22

Improvement Programme items are required to be completed by the ascribed deadline according to permit condition 1.4.1 and Table 1.4.1. IP22 was around the validation of a surrogate monitoring method for chloromethane species as proposed in IP19.

Cabot communicated to NRW (then EA) in Feb and Mar 2010 stating after extensive investigation a reliable surrogate method for monitoring chloromethane species could not be found and the relationship between CO and chloromethane in the Cabot process was not strong enough to make firm conclusions about chloromethane concentrations. The site were to refer to the method stipulated in the permit, i.e. BS EN 13649. This cessation of work into IP22 was suspended by the regulator in CAR1 A/100316/BU2110IS.

Since this time, further permit variations introduced IP26 (see V005). This required comparison of monitoring data using the agreed monitoring methods of Cl₂ and chloromethane. The outcome of IP26 was to confirm the appropriate monitoring method. Cabot responded to IP26 on 31st Jul 2013 with the outcome that an unmodified BS EN 13649 will still be the monitoring method specified – this is now stipulated in V007 Table 2.2.2, chloromethane monitoring method at A1 against an ELV of 50mg/m³. The completion of this IP26 was confirmed in CAR1 BU2110IS/0191110, 16th Oct 2013.

Since IP26 overtook IP22 and IP22 was confirmed by the regulator as being suspended, i.e. no surrogate method could be found, IP22 is technically complete.

IP22 is Complete

END

	EPR Compliance Assessment Report	Report ID: BU2110IS/0255762
This form will report compliance with your permit as determined by an NRW officer		
Site	Barry Site EPR/BU2110IS	Permit BU2110IS
Operator/ Permit	Cabot Carbon Ltd	Date 15/01/2016

Section 3- Enforcement Response	Only one of the boxes below should be ticked
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.	☐
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.	☐
We will now consider what enforcement action is appropriate and notify you, referencing this form.	☐

Section 4- Action(s)			
Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.			
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 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 which 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 fulfill 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 (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 and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information 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 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 the officer's line managers. 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.