

Compliance Assessment Report

Report ID:
CAR_NRW0023810

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

Site	Barry Silicon Installation	Permit Ref	KP3734SH		
Operator/Permit holder	Vopak Terminal Windmill Limited				
Regime	Installations				
Date of assessment	20/05/2016	Time in	14:00	Out	15:30
Assessment type	Site Inspection				
Parts of the permit assessed	fugitives, sampling, containment				
Lead officer's name	Kemp, Andi				
Accompanied by					
Recipient's name/position	Dave Pratt/ Terminal Manager	Date issued	28/07/2016		

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
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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	0	Total compliance score (see section 5 for scoring scheme)	0
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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

Compliance Assessment: Navigator Terminal Windmill

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Purpose of Compliance Assessment

The Navigator Terminal, Hayes Road, Sully, Barry is a directly associated activity (DAA) to the Dow Corning silicone plant. The Navigator Windmill Terminal (formerly Vopak) is a bulk storage site of methanol (fed to Dow Corning) and linear and cyclic products (fed from Dow Corning). The terminal is also an Upper Tier COMAH site. As a DAA and also regulated under the COMAH regime, little EPR regulation is necessary at this site.

The compliance assessment in this CAR1 form covers:

- Brief EPR inspections: 23rd Jun 2014 & 20th May 2016
- Routine lagoon sampling
- Annual submissions
- Fugitive emissions management
- Site Closure Plan

Aspects such as emergency response, accident management and containment are looked at primarily under the COMAH regime.

Other aspects such as site condition, boiler emissions and surface water segregation are either not significant (boiler = 0.3MWth input), will be picked up in IED variation (site condition: mandatory 5yr groundwater and 10yr soil testing), or are engineered appropriately with the evidence being part of the COMAH Safety Report (containment and prevention of contamination of surface water).

The site is accredited to ISO14001 for its environmental management system. A copy of the most recent registration certificate will be filed with this CAR1.

The former discharge consent for the only point source release for uncontaminated surface water into the Cadoxton, was replaced and equivalent measures put into the EPR permit.

The original permit (there are no variations) was issued in June 2006 and contained 5 improvement conditions – these have all been signed off as complete. Two of the ICs concerned fugitive emissions and closure plan – these are assessed below. One concerned reviewing their documented system of procedures such as environmental training, maintenance and spill work instructions, as the site EMS was declared lacking in this regard – this was also signed off as complete.

Adequate controls by virtue of permit conditions seek to control site EMS, fugitive emissions, site condition and protection of groundwater and soil, training, maintenance and incidents, accident prevention, sampling lagoon before release to the Cadoxton.

Previous compliance assessment does not indicate any outstanding issues. Regular reviews of the fugitive emissions leak detection and repair (LDAR) procedure and reviews of the site closure plan have been carried out since permit issue.

It has previously been agreed that an annual review of any improvement targets under the site EMS, need not be submitted to the regulator. This has occurred as the EMS is a company-wide registration, covering similar tank storage activities and such annual reviews and target setting are not warranted, unless a specific improvement is identified and required under either EPR or COMAH.

Routine Inspections

During the inspections the site has appeared to be in good condition, with bunds draining to the lagoon. The tanks are all situated in fully bunded secondary containment with manual valves to control rainwater flow from the bund sump to the lagoon, or to hold spilt tank contents in the bund. The tanker offloading area is roofed, like the tank farm, drains, via an interceptor, to the lagoon and the floor is engineered to ensure spills are directed to the drainage system.

The boiler room was visited, as was the high volume pump that can be used in the event of a spill or for conveying water for use in firefighting.

Assessment of the tank level monitoring system was conducted in the control room, where one of the operatives discussed the system with reference to the SCADA displays.

Most recently in May the site inspection confirmed that the site and storage facilities were all still in a well maintained condition. The operator introduced a new system (ENABLON) for recording and tracking site

incidents and near misses.

Recommendation 1 28TH July 2016: *Operator to ensure that sub COMAH accidents are covered in the EPR accident management plan.*

The COMAH demonstration will look at potential major accident to the environment scenarios, but under EPR potential, less serious, scenarios should be looked at, risk assessed and prevention, mitigation and recovery measures implemented. Such events could be loss of fuel or oil from vehicles, out of specification lagoon release etc.

The structure of the final holding lagoon was inspected, with the assurance from the operator that ongoing maintenance and repair would be to the latest guidance e.g. CIRIA C736. The lagoon appeared in good order and is supposed to be able to contain the volume of a credible spill scenario.

Navigator provided the procedure for dealing with minor spills: NTW-OPS-PROC-0034, issue 3. The procedure for minor spills is adequate and accepted. It contains references to the pumps, spill kits, disposal, investigating and stopping loss and contains useful contacts details. Any incidents are recorded.

Routine Lagoon Sampling

The site former discharge consent has been replaced by the permit and conditions, which stipulate this as the only authorised emission point to controlled waters, with Table 2.2.1.1 requiring lagoon sampling before release. The parameters from the consent were not carried over into the permit, due to the existing control and containment at the site. The lagoon is sampled before each release, with Dow Corning on site laboratory performing pH, suspended solids, methanol and trimethylsilanol analysis.

These parameters are designed to be reflective of a leak from the methanol or siloxane tanks. Since April 2014 until June 2016, all results have shown pH values between 7 and 9.5, with methanol and TMS not being detected (respective LODs: 3ppm, 1ppm). Volumes discharged are typically between 800 and 1500m³.

During the May 2016 inspection AK requested the operator provide a lagoon sampling procedure, as the procedure was not documented separately. The operator subsequently provided Navigator Terminals UK Windmill Terminal Procedure: Lagoon Sampling; ref: NTW-OPS-LAG-0001, issue 1. This is assessed below. This procedure covers trained Navigator personnel sampling the lagoon; it does not extend to analysis by Dow. The Dow analysis would have been partly assessed during regulatory activity under their EPR permit. Dow have the capability to assess these parameters.

The main points of the procedure cover the sampling point, the sample volume and vessel (500ml glass), entry onto the Dow system, unique labelling, resampling for failures, acting on two failures and controlling vital valves during sampling.

NRW accepts the procedure, but makes the following recommendation:

Recommendation 2 28TH July 2016: *(i) Consider taking two samples, so a fail or suspect results can be reanalysed immediately; (ii) ensure any samples are preserved accordingly, even if that is only keeping out of sunlight and temperatures at or below 4 deg C; (iii) ensure turn around time from sampling to result is short enough to allow response before emptying lagoon; (iv) ensure sediment and other debris is not drawn into the sample bottle – although with valve sampling as opposed to using a container on a pole, this will likely be eliminated anyway.*

Annual Submissions

Submissions for 2014 and 2015 are assessed, in accordance with condition 4.1.2 and 4.1.3. These submissions show that:

- Waste tonnage is minimal and with little or no hazardous waste
- Energy use is stable
- Losses in kg/yr of methanol and D5 cyclics are reasonably consistent, but D4 cyclics have increased since 2011 from 1812kg to 3298kg

See assessment of fugitive emissions below.

Action 1 28TH July 2016: *Navigator to supply an explanation for the general increase and in particular for the 2015 figure lost of 3298kg.*

NRW accepts that losses are related to tank movements, but an explanation with supporting evidence is required.

Fugitive Emissions

Over the years the operator has reviewed the measurement and control of fugitive emissions. Essentially US EPA Method 21 is used. This requires measurement of ambient concentrations at a set distance from potential sources (pump seals, flanges, valve stems, blanked pipe ends, tank roof seals, vents etc.) and using emission factors to estimate losses. Depending on the type of installation and the nature and temperature of the fluids contained / transferred, leak / no leak thresholds can be applied – above which work needs to be carried out to prevent or reduce the losses. Navigator are using the 500ppm threshold.

In the original permit application the long term H1 screening assessment of methanol and D4 and D5 cyclics, showed that the cyclics were insignificant and the methanol PEC was 6.4%, again below any value where prohibition of release would be required or controls required above typical good practice storage and the sites quarterly LDAR program.

The 2014 and 2015 fugitive emissions reviews (based on years 2013 / 14) revealed:

- FID and Method 21 still used quarterly
- In 2014 several results were above 500ppm and corrective action was taken: valve tightening, gland packing etc.
- 2015 5 out of 214 monitoring points were above 500ppm
- All pump seals are double mechanical seals or the pump is magnetically driven
- Readings from roof vents showed values experience before, indicating no deterioration
- Values of methanol are comparable over the two years

For the review covering year 2015, additionally:

- 398 points tested
- Methanol tanks tested at 16 points around the roof seal circumference
- 4 points above 500ppm

See Action 1 above. The permit application states that D4 and D5 losses are insignificant, however the annual reporting shows much larger losses of D4 against methanol and especially D5. Action 1 seeks an explanation and evidence for this.

Closure Plan

The site Closure Plan must be reviewed every 4 years. The original Closure Plan was required by IC5 and was accepted in July 2007. Subsequent reviews are simply brief reviews of this existing document, since very little changes in terms of activities and substances and infrastructure changes at the site.

The site in March 2015 declared that no changes or incidents have occurred at the site that necessitate the changing of the 2007 document. The site has been constructed with design in mind that will minimise chances of pollution during closure, decommissioning and demolition. For example all structures apart from the necessary drainage, are above ground.

The review is accepted. In the event of a major spill, where ground is contaminated, the Closure Plan will

need to be revised to allow for remediation and new construction activities.

END

EPR Compliance Assessment Report

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Operator/Permit holder	Vopak Terminal Windmill Limited	Date	20/05/2016

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.