

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

Site	Pembroke Refinery	Permit Ref	YP3930EX		
Operator/Permit holder	Valero Energy Ltd				
Regime	Installations				
Date of assessment	22/11/2016	Time in	09:00	Out	13:45
Assessment type	Audit				
Parts of the permit assessed	See below				
Lead officer's name	Broom, Mark				
Accompanied by					
Recipient's name/position	Neil White/ Environmental Engineering Manager	Date issued	11/04/2017		

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	A	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	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	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

Valero Community Liaison meeting

This meeting was held in the morning and included a good representation from the local councillors. Valero included the usual agenda items but three topics attracted more attention than the usual issues such as the road access improvements -

- * Valero's plans for a new combined heat and power plant within the refinery
- * A spillage of fuel oil on Bank Holiday Monday and
- * The A48 kerosene spillage

The CHP project was broadly welcomed but with a few reservations such as the potential noise impacts across Angle Bay and a challenge on the size of the plant (could it be bigger). Valero outlined the scope of their project and also the new planning approval process. The noise concerns centred on the potential impact of noise across to Angle as the Bay offers no noise attenuation. If the planning assessments show a potential noise impact from this proposal, Valero will consider further noise attenuation.

Valero would like to attend local meetings to explain their plans and they would like to hold a special liaison meeting to update the group on progress with the CHP project and planning approval.

The fuel oil spillage was discussed. There was a report of a spillage of larger spillage of gasoline in the Haven that was not reported.

The A48 event was also discussed. Valero explained the relationship between the refinery and the pipeline and also that the pipeline had a spill response for each 100 m section of the main line pipeline. Valero did say that a very high percentage of the spillage has been recovered and that the recent intense rain fall appeared to have flushed out some more of the spill.

The group will be updated on progress with both spill events at the next meeting.

High Temperature Hydrogen attack (HTHA)

In Tesoro Anacortes refinery in the States on 4/2/2010, there was a catastrophic failure of a heat

exchanger that caused several fatalities. The Chemical Safety Board (CSB) in the States carry out independent investigations into such events. They concluded that this fatal incident was caused by HTHA. The CSB has issued a report and a short video into this event which can be accessed by the following link -

<http://www.csb.gov/tesoro-refinery-fatal-explosion-and-fire/>

They have more recently issued a safety alert about HTHA that includes several recommendations -

<http://www.csb.gov/csb-issues-safety-alert-stemming-from-fatal-tesoro-anacortes-investigation/>

There have been some concerns that industry may not be aware of this issue, Valero have been looking into this potential problem within their refinery in Pembrokeshire. They have identified certain areas of their processing plant that is potentially at risk (Unifiner and the ULSG plants). They have used spool pieces in the pipework to assess the problem.

Their metallurgy experts in the States have been working, with others, on the American Petroleum Institute group to review the guidance on this issue (API 941). This guidance has graphs (called Nelson curves) of pressure and temperature with a set of curves (lines) for various grades of steel, below which the steels used to contain the process fluids have been deemed to be suitable for use in that duty.

This event of HTHA in the States happened on plant that was below a curve and should have been suitable for use. As a result, these curves have been reviewed by API and they have issued a new set of Nelson curves. However the latest news this week is that the CSB have challenged API on the suitability of their reviewed Nelson curves.

It is clear that Valero are aware of this issue, they have assessed their refinery to see what areas of the process are at risk and they are taking steps on this issue. They are also being kept aware of this issue from the States through their monthly telecons on maintenance and containment.

CDOIF 2 assessment

Previously NRW wrote to Valero about their CDOIF 2 environmental risk assessment. This explained that NRW would write to require a CDOIF 2 risk assessment within six months and once received a plan within the following six months to reduce the risk from the site to meet the COMAH competent authority containment policy requirements. Following the safety report feedback HSE included a requirement to submit the plan within the next six months. However the CDOIF 2 assessment has not been formally submitted. There is a meeting to discuss the use of CDOIF in the UK at refineries in early December. The approach will be reviewed and NRW will confirm the work required for CDOIF 2 in the New Year. The risk assessment reduction plan submissions deadline will then be fixed based on the formal CDOIF 2 submission date.

Reporting to NRW

An approach for using existing criteria based on current guidance and thresholds such

as RIDDOR was discussed, Valero use API 754 process safety performance indicators as their internal criteria from reporting to Valero head office in St Antonio. This system has two level for loss or primary containment. The only difference between the two categories in the scale of the impact. There are two lower tiers that are for internal use. The three boxes below put API 754 into context.

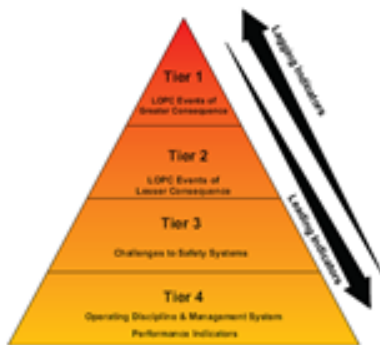


Figure 2—Process Safety Indicator Pyramid

- The count of Tier 1 process safety events is the most lagging performance indicator and represents incidents with greater consequence resulting from actual losses of containment.
- The count of Tier 2 process safety events represents loss of primary containment events with a lesser consequence, but may be predictive of future, more significant incidents.
- Tier 3 events represent challenges to the safety systems. Indicators at this level provide an opportunity to identify and correct weaknesses within the safety system.
- Tier 4 indicators represent operating discipline and management system performance.

- Any Tier 1 or Tier 2 Process safety event begins with an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials from a process that results in one or more consequences described in the Recommended Practice.
- Tier 3 indicators are intended for internal company use or a company may use all or some of the example indicators listed in Recommended Practice (e.g. safe operating limit excursions, primary containment inspections or testing outside acceptable limits, demands on safety (systems)).
- Indicators at Tier 4 level need to reflect site specific performance objectives and are comprised of operating discipline and management system performance. Tier 4 indicators may identify opportunities for both learning and systems improvement.

It would be useful if the three sets of reporting criteria could be mapped (API 754, RIDDOR and the NRW suggestions) so that there is further clarity on reporting on these issues.

Cogen project

Valero and their consultant's ERM, would like to hold a meeting to discuss a number of issues related to the planning and also the permitting of this project. They would like to discuss air dispersion modelling, impact assessment, habitats issues as well and planning matters with NRW. They understand that this would be chargeable reapplication time. They are looking at a meeting at the refinery in January/February.

Conclusions

The liaison meeting was useful and it raised some concerns over the new CHP project. It is clear that Valero are aware of the issue of high temperature hydrogen attack. They have assessed their refinery to see what areas of the process are at risk and they are taking steps on this issue. The issue of CDOIF risk assessment was discussed and clarified. The use of API 754 for internal company reporting of events was discussed. The Cogen project was briefly reviewed and Valero understand the further pre-application on this issue by NRW will be chargeable.

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0026940**

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

Site	Pembroke Refinery	Permit Ref	YP3930EX
Operator/Permit holder	Valero Energy Ltd	Date	22/11/2016

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.

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 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.