

Compliance Assessment Report CAR_NRW0048530

Permit being assessed: YP3930EX.

For: Pembroke Refinery, **held by:** Valero Energy Ltd

At: Valero Energy Ltd , Pembroke Refinery, Pembroke, Pembrokeshire, SA71 5SJ.

Type of assessment: Site Inspection,

Reason: Routine.

On: 10/04/2025 between 10:00 and 15:00.

Parts of permit assessed: See below.

NRW Lead Officer: Michael Launder, accompanied by Daniel Packer.

Report sent to: Manager Environmental Engineering, Valero Energy Ltd., on 21/07/2025.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR2A - Installations - Operations - Permitted activities	Assessed (A)	
IR2C - Installations - Operations - Operating techniques	Assessed (A)	
IR2E - Installations - Operations - Improvement programme	Action only (X)	

Result types are explained in more detail in the 'Important Information' section below.

Total non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
IR2E	Operator to provide an interim report and summary of any proposed future phases of the UCO trial.	31/10/2025

Compliance criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

Introduction

This Compliance Assessment Report was completed to record a site visit reviewing the progress of the Used Cooking Oil trial at the Valero Pembroke Refinery.

During 2020, the operator applied for a permit variation to run a trial for adding Used Cooking Oil (UCO) as a feed to the diesel Hydrotreater (HTU1). The variation made the following permit changes:

- updated table S1.2 Operating Techniques to reflect the trial process
- added Improvement Condition 41 requiring a written report 2 months from completion of the trial
- added waste code 20 01 25 Edible oils and fats to the Schedule 2 list of waste types permitted for refinery processing

The addition of UCO to the HTU1 feedstock contributes to the refinery meeting its biofuel component obligations (which is c. 15% at the time of writing).

An interim report was submitted to NRW in 2023 detailing the extension of the trial with a focus on effects on catalyst performance.

Process

Initially envisaged to be pumped directly from road tanker wagon (RTW) into the process, UCO is now stored in two 70m³ intermediate steam-heated atmospheric tanks. Input rates to the process are 5 - 6m³/hr, supplied by 2-3 RTW deliveries every weekday. This arrangement allows initial water separation prior to filtration and combination with diesel feed from the crude unit as it enters HTU1.

During the site walkover, the concrete slab where the RTW unloads was seen. This drains to the site waste water treatment plant. The temporary tanks, filters and coalescer are located within a bunded area.



Coalescer, filters and temporary tanks

Trial Progress

This trial phase has run for two years so far, with another two years expected to run. The duration of the trial has spanned HTU catalyst changes and site turnarounds, testing a full range of operating conditions. To date, the operator has found that higher starting temperatures are required and the rate of catalyst change is slightly increased. Both 50 and 25 micron filters (80 inches long) have been trialled and are replaced every 4 - 5 days.

In terms of operational refinements, to maintain quality, a catalyst trap has been designed, specifically to remove excess phosphorous. Also, the addition of a pre-heater is being considered, to increase the viscosity of the UCO, as well as the steam coils and insulation present on the intermediate storage tanks.

The operator has reported that there was initially no containment on the filter doors leading to leakage during filter changeover. Although leaks were confined to the bunding and channelled straight to the site wastewater treatment plant, this has now been rectified to prevent further leaks.

Conclusion

The operator considers the trial to be successful to date, allowing them to meet the biofuel component obligations, with minor operational issues and no detriment to product quality. With at least two further years to run, options being considered at the end of the trial include scaling up or looking to add into other refining units,

As outlined above, Improvement Condition 41 requires the operator to submit a written report within 2 months of the end of the trial. Given the two year trial extension so far to accommodate this phase of the trial, the operator should provide at least an interim report and summary of any proposed future phases.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

If your assessment result in Section 1 is suspended, what does this mean?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry compliance criteria (used in section 1 and 2):

1. Management

- IR1A – General management
- IR1B – Finance (only applicable to Landfill)
- IR1C – Energy efficiency
- IR1D - Efficient use of raw materials
- IR1E - Avoidance, recovery and disposal of wastes produced by the activities
- IR1F - Multiple operator installations

2. Operations

- IR2A – Permitted activities
- IR2B – The site
- IR2C – Operating techniques
- IR2D – Technical requirements
- IR2E – Improvement programme
- IR2F – Pre-operational conditions
- IR2G – Landfill engineering (only applicable to Landfill)
- IR2H – Waste acceptance (only applicable to Landfill)
- IR2I – Leachate levels (only applicable to Landfill)
- IR2J – Closure and aftercare (only applicable to Landfill)
- IR2K – Landfill gas management (only applicable to Landfill)

3. Emission and Monitoring

- IR3A – Emissions to water, air or land
- IR3B – Emissions of substances not controlled by emission limits
- IR3C – Odour
- IR3D – Noise and vibration
- IR3E – Monitoring
- IR3F – Pests
- IR3G – Air quality management plans
- IR3H – Monitoring for the purposes of the Industrial Emissions Directive (this heading includes Large Combustion Plants)
- IR3I – Fire

4. Information

- IR4A – Records
- IR4B – Reporting
- IR4C – Notification

Enforcement response

Any non-compliance with a permit condition is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or

suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or 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
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within twenty working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 to 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.