

BAT 52 VRU Progress Report (IC56)

Rev	Date	By	Checked	Comments
0	30/05/23	K Rothwell	J Shortall	

1 Introduction

The Permit [ref 1] was updated in 2018 to reflect the requirements of the Refinery BREF [ref 2]. This includes:

- BAT 52: VOC emissions to air from loading and unloading operations of volatile liquid hydrocarbon compounds

BAT 52 requires vapour recovery techniques to be used for loading/unloading operations for sea-going vessels with an annual throughput > 1 million m3/yr.

A time-limited derogation was granted for White Oil Docks (WOD), the throughput of which is above this threshold. This was on the basis that Essar was implementing a project which would move some loading operations from WOD to Tranmere by the end of 2020. At this point, throughput at WOD would fall below the threshold. The project included the construction of a BAT 52 compliant vapour recovery unit (VRU) at Tranmere.

The project was delayed due to the impacts of COVID-19 – both due to the stopping of all non-essential work during the lockdown period and due to a requirement to re-phase expenditure given market financial constraints.

A further derogation application was made by Essar for White Oil Docks (WOD). A time-limited derogation was granted in EPR/FP3139FN/V011 for loading operations at White Oil Docks until 31/08/24. A set of improvement conditions IC54 – 58 were included within the permit to provide updates on the progress of the project.

This progress report is provided to satisfy the requirements of IC56.

IC56	<u>BAT Conclusion 52</u> The Operator shall submit a report setting out the progress made in delivering the Mogas export project relied upon to achieve compliance with BAT 52, for approval by the Environment Agency.	31/05/23
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2 Loading Volumes at White Oil Docks

Summary of volume of volatile liquid hydrocarbon compounds which have been loaded/unloaded at White Oil Docks (Berths 1 and 3 on Stanlow Island) between 01/01/22 – 30/04/23.

	Volume
01/01/22 – 31/12/22	> 1 million m ³
01/01/23 – 30/04/23	< 1 million m ³

3 Basis of Derogation

The White Oil Docks (also called Stanlow Island Berths) are located on the north bank of the Manchester ship canal (on Shell Island) opposite the Layby berth. There are two berths; numbers 1 and 3, used for importing/exporting white oils and components. Gas oil and fuel oil can also be imported / exported at these berths.

Emissions from loading are vented through a high level (approx. 60m) vent stack, which uses fans to disperse the vapour. The vent stack is identified as a minor release point in the Permit [ref 1].

Loading/unloading operations for sea-going vessels are > 1 million m³/yr, therefore BAT52 applies. However, there is no vapour recovery at the White Oil Docks.

Although the loading/unloading rates at White Oil Docks are above the 1M m³/yr threshold a project will reduce loadings at this location to < 1M m³/yr by moving shipments to Tranmere. The project includes the construction of a BAT 52 compliant vapour recovery unit (VRU) at Tranmere. A time-limited derogation to 31/08/2024 was granted on this basis.

4 Progress against Scope

The scope of this project is, in broad terms:

- Install a VRU at Tranmere (compliant with BAT 52).
- Reroute products from WOD to Tranmere

There will be no change to the loading/unloading rates at WOD until the project is complete.

The project milestones and timings as communicated to the EA within the derogation application and discussed within a meeting between Essar and the EA on 23/05/22 are as follows:

Improvement Condition	Reporting Date	Milestones
IC 54	10/06/22	<ul style="list-style-type: none"> FID Approved EPCM Contractor Appointed Report to include layout plan of design at Tranmere
IC 55	30/11/22	<ul style="list-style-type: none"> Engineering Scopes ready for Tender of Project Civil & Mechanical Contracts (Long lead items) Place Order VRU
IC 56	31/05/23	<ul style="list-style-type: none"> Construction Start (Query – project program shows construction duration 8 months with start date 31/10/23).
IC 57	30/11/23	<ul style="list-style-type: none"> Delivery of all long Lead Items Permit Variation to Tranmere permit submitted (30/06/23)
IC 58	31/05/24	<ul style="list-style-type: none"> % of project construction completion in line with construction plan (to be submitted)
Project Completion	31/08/24	<ul style="list-style-type: none"> Construction Complete Commissioning Complete

The project is on track to be commissioned by 31/08/2024.

Progress against Schedule:

- Construction started: (see diagram attached)
 - Installing temporary structures to bridge existing pipe tracks are 100% complete.
 - Removal of a section of bund and replacing it with compacted stone to form a good access into the tank compound is 100% complete.
 - Installation of Haul Roads are 100% complete in both tank compounds.
 - Slit trenching to prove the pumping foundation area is clear of services is 90% complete.
 - Perimeter slit trench to the pigging foundations area 90% complete.
- Construction drawings issued for civils and piping work at West of Gowy (Stanlow).
- Purchase Orders issued for MLA (Marine loading arm) and Pumps.
- Dispersion modelling of VRU vent stack emissions in progress with CERC.
- VRU HAZOP completed.
- Tranmere & VRU 90% model reviews completed.

5 References

1. Stanlow Manufacturing Complex Permit number EPR/FP3139FN/V013 Final draft, issued 11/05/23.
2. "Best Available Techniques (BAT) Reference Document for the Refining of Mineral Oil and Gas" [Refinery BREF], P Barthe et al, 2015

6 Appendices

6.1 Appendix 1 – Diagram showing construction to date.



