



Local Authority Pollution Prevention and Control

Permit to operate an installation for Unloading of Petrol into Stationary Storage Tanks and Filling of Vehicle Petrol Tanks at a Service Station

**Shell Leamington,
Clarendon Avenue, Leamington Spa, Warwickshire, CV32 5PY**

Permit Reference: 55 (Revised August 2020)

Warwick District Council ("the regulator") in accordance with Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 ("the Regulations") hereby permits: **Shell UK Oil Products Limited**

Whose registered head office is: **Shell Centre, York Road, London, SE1 7NA**

to operate an installation for the unloading of petrol into stationary storage tanks at a service station and motor vehicle refuelling as defined in Part B(c) and B(e) of Section 1.2 of Schedule 1 of the Regulations

at Shell Leamington, Clarendon Avenue, Leamington Spa, CV32 5PY

subject to compliance with the conditions of this permit.

Signed



Marianne Rolfe, Head of Health and Community Protection
A person authorised to sign on behalf of the Council

Dated 26th August 2020

Address for correspondence:

Warwick District Council
Health and Community Protection
Milverton Hill
Royal Leamington Spa
CV32 5HZ

Installation Description

The general location of the installation is shown on the plan edged in red on page 8.

The activities regulated by this permit are the unloading of petrol into stationary storage tanks from road tankers and the filling of vehicle petrol tanks.

The aim of the conditions within the permit is to control emissions of petrol vapour to atmosphere

Vapours displaced from storage tanks during unloading are returned to the road tanker via a vapour balancing system.

Vapours displaced by filling of petrol into vehicle tanks are recovered by a vapour recovery system to a storage installation. The installation has in place an automatic monitoring system to detect faults in the proper functioning of the vapour recovery system during filling of vehicle tanks.

The technical document used in the preparation of the conditions is the Secretary of States Guidance Note: PG1/14 (13) "Unloading of Petrol into Storage and Motor Vehicle Refuelling at Petrol Stations"

Legislation

1. The Pollution Prevention and Control Act 1999.
2. The Environmental Permitting (England and Wales) Regulations 2016

Definitions used in the conditions

Operator shall mean **Shell UK Oil Products Limited**

Regulator shall mean an authorised officer of **Warwick District Council**.

This permit has been prepared by: Mr P M Lawson, Senior Environmental Health Officer,

Tel: 01926 456715

Conditions

Duty to Use the “Best Available Techniques”

The operator shall use the “best available techniques” for preventing or, where that is not practicable, reducing the emission of petrol vapours from the installation. This applies to any aspect of the operation of the installation not covered by the specific conditions in this permit.

“Best available techniques” is defined in Article 2(11) of Directive 96/61/EC Concerning Integrated Pollution Prevention and Control, which is reproduced below. “best available techniques” means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole; and for the purpose of this definition –

- a) “techniques” includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned”.
- b) “available techniques” means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator;
- c) “best” means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;

Conditions Relating To Unloading Of Petrol into Stationary Storage Tanks

Construction

1. The vapour collection system shall be of size and design to minimise vapour emissions during the maximum petrol and vapour flow, with a minimum vapour return pipe diameter of 100mm.
2. The connection points on the tank filling pipes and vapour return pipe shall be fitted with secure seals to reduce vapour leaks when not in active use. Apertures on storage tanks for the use of dipsticks shall be securely sealed when not in use.
3. The fittings for delivery and vapour return pipes shall be different to prevent mis-connection.
4. Petrol storage tank vent pipes shall be fitted with a pressure vacuum relief valve to minimise vapour loss during unloading and storage. The pressure vacuum relief valve shall be sized and weighted so as to prevent vapour loss, except when storage tanks are subject to potentially hazardous pressurisation.

5. Vent pipes shall not discharge less than 3 metres above the ground, nor within 3 metres of any opening windows or ventilation air inlets

Operation

6. Vapours displaced by the delivery of petrol into the storage tanks shall be returned through a vapour tight connection line to the mobile container delivering the petrol. Unloading operations may not take place unless the vapour recovery arrangements are in place and properly functioning.
7. All reasonably practicable steps will be taken to prevent uncontrolled leaks of vapour from vents pipes and connectors. The regulator must be informed immediately of any vapour leak that is likely to affect the local community.
8. In the event of a vapour leak described in condition 7, the operator shall advise the regulator of the corrective measures to be taken and the time scale over which they will be implemented.
9. Instances of vapour lock, Vapour leaks and the corrective measures taken shall be recorded in the site records.

Deliveries

10. When connecting hoses prior to delivery, the vapour return hose shall be connected before any delivery hose. The vapour return hose shall be connected at the road tanker end first and then at the storage tank end.
11. On completion of unloading the vapour hose shall not be disconnected until the delivery hose has been discharged and disconnected. The delivery hose shall be disconnected at the road tanker end first. The vapour return hose shall be disconnected at the storage tank end first.
12. The number of tanker compartments being discharged simultaneously shall not exceed 2.
13. Adjacent to each vapour return connection point for the storage tank, there shall be a clearly legible and durable notice, instructing "Connect vapour return lines before off-loading" or similar wording. The sign shall also state that no more than 2 compartments may be unloaded simultaneously in accordance with condition 8 above.
14. If dip testing of storage tanks or road tanker compartments is performed before delivery, the dip openings shall be securely sealed prior to delivery taking place. Road tanker compartment dip testing shall not be performed whilst the vapour hose is connected.
15. The delivery operation shall be carried out by a competent person who shall remain near the tanker and keep a constant watch on hoses and connections during unloading. A competent person is a person who has received training in the unloading of or supervising the unloading of petrol into storage tanks to achieve compliance with the conditions of this permit, including action to be taken in the event of a leak of vapour, **and** who has been trained in procedures

for safe unloading of petrol as laid down in the "Approved Code Of Practice for Unloading of Petrol from Road Tankers," published by the Health and Safety Executive.

16. All road tanker compartment vent and discharge valves shall be closed on completion of the delivery.
17. All connection points shall be securely sealed after delivery.
18. If storage tanks or road tanker compartments are dipped after delivery, the dip openings shall be securely sealed after dip testing.
19. Manhole entry points to storage tanks shall be kept securely sealed except when maintenance and testing are carried out which require entry to the tank.

Inspection and Maintenance

20. Petrol delivery and vapour return lines on petrol storage tanks shall be inspected and checked for correct functioning every 12 months.
21. Petrol delivery and vapour return lines shall be tested periodically for vapour containment integrity.
22. Pressure vacuum relief valves shall be checked for correct functioning, including extraneous mater, seating and corrosion at least once every 3 years.
23. The operator shall implement the schedule of preventive maintenance provided as part of the application for permit dated 12th August 2020 which is attached at page 9 of this permit.

Conditions Relating to Filling of Vehicle Petrol Tanks

24. Vapours displaced by the filling of petrol into vehicle petrol tanks shall be recovered through the use of active vapour recovery system to the storage installation.

Filling of vehicle petrol tanks shall not take place unless the system is in place and fully functioning.

25. The Vapour recovery system referred to in condition 24 shall be certified by the manufacturer to have a hydrocarbon capture efficiency of not less than 85%.
26. The vapour recovery equipment referred to in condition 24 shall be designed installed and tested in accordance with the relevant British, European and international Standards or national methods in force at the time the equipment was installed.

27. The installation has in place an automatic monitoring system to detect faults in the proper functioning of the petrol vapour recovery system.

28. **Petrol Delivery and vapour recovery systems for petrol tanks** shall be tested in accordance with the manufacturers specifications prior to commissioning and for:

vapour containment integrity – at least once every three years and always following substantial changes or significant events that lead to the removal or replacement of any of the components required to ensure the integrity of the containment system.

Effectiveness of the vapour recovery system – at least once every three years where an automatic monitoring system is in place and every year in other cases. This shall be undertaken by measuring the ratio of the volume of vapour recovered to liquid petrol dispensed i.e. vapour/petrol (V/P) ratio. The V/P ratio shall be at least 95% and, where the vapours are recovered into the fuel storage tank, not greater than 105% to avoid excessive pressure build up and consequent release through the pressure relief valves. The V/P ratio shall be determined by simulating the dispensing of petrol using measuring equipment approved for use in any European Union or European Free Trade Association country. The method to be used shall involve measuring the volume of air recovered with fuel flow simulated at the dispenser and read electronically using the approved measuring equipment. This provides the ratio of air recovered to liquid dispensed (air/liquid ratio) which should then be corrected to provide the V/P ratio using an appropriate factor to account for the difference in viscosity between petrol vapour and air ('k-factor').]

29. **The automatic monitoring system** referred to in condition 27 shall:
- Automatically detect faults in the proper functioning of the petrol vapour recovery system including the automatic monitoring system itself and indicate faults to the operator. A fault shall be deemed to be present where continuous monitoring during filling of vehicle petrol tanks indicate that the V/P ratio (condition 28) averaged over the duration of filling has fallen below 85% or has exceeded 115% for ten consecutive filling operations. This only applies to filling operations of at least 20 seconds duration and where the rate of petrol dispensed reaches at least 25 litres per minute.
 - Automatically cut off the flow of fuel on the faulty delivery system if the fault is not rectified within 1 week.
 - Be approved for use under the regulatory regime of at least one European Union or European Free Trade Association country
30. The automatic monitoring system referred to in condition 29 shall be tested at least once every three years.
31. Operators shall be notified without delay if the results from any monitoring or tests mentioned in Conditions 28 or 29 or 30 identifies adverse results, vapour recovery equipment failure or leaks if there is likely to be an effect on the local community, the operator should advise the regulator of the corrective measures to be taken and the timescales over which they will be implemented.

General Conditions

- 32.. Effective preventative maintenance shall be employed on all aspects of the installation including all plant, buildings and the equipment concerned with the control of emissions to air. Preventative maintenance for all vapour recovery systems shall be carried out in accordance with the manufacturer's instructions
- 33. Spares and consumables needed shall be held on site, or should be available at short notice from guaranteed suppliers, so that plant breakdowns can be rectified rapidly.
- 34. Sufficient training and practical instruction must be provided to petrol station staff to enable them to carry out their duties in respect of using or supervising the use of and maintaining vapour collection controls and action to be taken in the event of a leak of vapour.

Records

- 35.. The operator shall maintain records incorporating details of the following:
 - (a) All maintenance, examination, testing, installation and repair work carried out on systems for the recovery of vapours during unloading of petrol into storage tanks and the filling of vehicle tanks.
 - (b) Manufacturers certificate of hydrocarbon capture efficiency for vapour recovery system used in filling of vehicle tanks.
 - (c) Vapour recovery efficiency and Vapour containment integrity test results for vapour recovery system used in filling of vehicle tanks.
 - (d) Training given to operating staff at the service station.
 - (e) Any suspected or actual vapour leaks together with action taken to deal with any leak.
 - (f) Instances of vapour lock and the corrective action taken.
- 35. These records required by condition 35 shall be maintained and kept by the operator for a minimum of three years and shall be made available to the regulator for inspection upon request.

Display of Permit

At all times while this Permit is in force, a copy of the Permit shall be kept posted at process site in such position so as to be conveniently read by persons having duties which are, or may be, affected by the matters set out in the Permit.

End Of Conditions

Location



Shell Leamington, Clarendon Avenue CV32

Scale: 1:1000 @A4 Drawn By: PML

Date: 25 August 2020

Riverside House, Milverton Hill, Royal Leamington Spa, Warwickshire. CV32 5HZ Tel: 01926 4565663



Vapour Recovery Maintenance Schedule

Provided by Shell UK Oil Products Ltd 12th August 2020

VR Dispenser reactive maintenance works are undertaken solely by approved Pump Maintenance Contractors (PMC).

Shell Maintenance Policy outlines:

VR1

Annual Inspections (visual) are performed and Scheduled Testing is conducted every 3 years. The annual inspection is conducted by the CBRE Mobile Technicians (MT) and the year test is conducted by an approved contractor. Both parties maintain schedules and keep copies of the respective certificates, copies of which are available upon request.

Stage I (three-year test)

- Undertake a visual inspection of fill caps & vapour recovery
- Remove VR adaptor check flame arrester & clean replace where necessary
- Blow through all diesel vents to check if in manifold or not as should not be in manifold
- Plug into VR system & take readings to check if working within correct tolerances
- (i.e. – 2mb on negative pressure & 35 mb on positive pressure)
- These tests run on this section with PV valves uncovered check for correct opening pressure negative pressure & when PV valves covered checks for integrity of system
- Remove PV valves and place on test rig to see if open on correct positive pressure 35 mb. Replace where necessary then refit.
- Fill points all tested to check if OPV or drop tubes are vapour tight
- All signage checked on fills/VR point/vents/manifold/chambers.
- The above tests cover the integrity of ullage space of spirit tanks, vents., return line, stage 2 line, fills connected, VR point, manifold, PV valve

VR2

The respective approved PMC complete the inspection/testing and the relevant Vapour Recovery Certificates are sent to the CBRE Property Services Co-Ordinator (PSC) and also stored within their own database. The PMC maintain an updated database of when each sites VR2 test certificate is due and ensure attendance and re-issue prior to that expiry date. All VR2 systems are on 'Constant Monitor'.

Stage II (three-year test)

- Test VR2 nozzle individually and measure vapour recover performance.
- Performance must range between 85% and 115% or be adjusted to meet this.
- For Closed Loop systems this test should be undertaken every 3 years