

 <b>Marathon Petroleum Company LP</b>		REFINERY-WIDE		R-11-018
ANACORTES REFINERY		Tank Roof Access		Page 1 of 4
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## 1.0 INTRODUCTION

### 1.1 Purpose

This procedure establishes requirements for all Marathon Anacortes Refinery employees and contractors to follow when visiting tank roofs.

### 1.2 Scope

This document contains tank roof access safety precautions to ensure a safe working environment. Marathon Anacortes Refinery employees and contractors are expected to work safely and follow this procedure when visiting tank roofs. Any deviations from this procedure require Area Safety Specialist approval.

## 2.0 DEFINITIONS

The following definitions are applicable to this procedure.

**Table 1 Definitions**

Term	Description
Gauging Platform	Area between the stairs (i.e. tank access and roof access) on floating roof tanks, and a five foot radius around the gauge hatch on a cone roof tank.
Unprotected Roof Edge	Area with minimum railing or rim height of 42 inches, plus or minus 3 inches, above the walking/working level.

## 3.0 ROOF OR GAUGING PLATFORM ACCESS

A Safe Work Permit is required to access the roof or gauging platform of any tank. The only exceptions to this requirement are the following:

- Operations personnel performing their regular duties on the gauging platform.
- Personnel visiting the platform of spheres.
- Non-Operations personnel visiting the gauging platforms for inspection purposes with prior approval from Operations, and equipped with a personal H2S monitor. Personnel must ensure that all static electricity that may accumulate while climbing the stairs is dissipated. This is accomplished by touching the designated unpainted grounding point on the gauging platform immediately upon arrival.

## 4.0 DOUBLE DECK FLOATING ROOF TANKS

When a tank roof is less than 4 feet below the rim of the tank, a Safe Work Permit can be issued if the following conditions are met:

- Roof must be stationary with no movement into or out of the tank. Water draw, suction and discharge valves (including MOVs), and heaters are to be closed and tagged (see R-11-032).
- Roof seal must be intact with no evidence of leakage or personnel protective equipment must be worn (see R-11-023). Refer to the SDS for additional information (see R-11-019).
- If working within 6 feet of an unprotected roof edge, a properly filled out JSA is to be completed stating the hazard and the mitigation for that hazard.

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- Continuous air monitoring with a 4 or 6 way meter may be required, depending on work scope and potential personnel exposure.

## 5.0 ANNULAR PONTOON FLOATING ROOF TANKS

Annular pontoon floating roofs have a double deck pontoon installation around the outside edge of the floating roof, while the center of the roof is a single layer of steel resting on the hydrocarbon contents of the tank. Consideration must be given to the condition of the steel before accessing this portion of the roof. A meeting shall be scheduled with Inspection Department and Health & Safety Department personnel prior to issuing a permit to discuss the roof history, any obvious problems seen from the gauging platform, and special safety requirements such as the following:

- Walk on welded seams whenever possible (i.e. double thickness at seams).
- Possibly use materials to spread weight across the roof surface and minimize the possibility of poking a hole in the roof.
- When the roof is four feet or more below the rim of the tank, it is classified as a confined space and a Safe Work Permit must be issued for entry (see R-11-017).

The following requirements must be met prior to permit approval:

- Roof must be stationary with no movement into or out of the tank. Water draw, suction and discharge valves (including MOVs), and heaters are to be closed and tagged (see R-11-032).
- Tank mixers shall be turned off and tagged.
- Roof seal must be intact with no evidence of leakage or personnel protective equipment (PPE) must be worn (see R-11-023). Refer to the SDS for additional information (see R-11-019).
- Personnel are required to wear supplied air breathing equipment. Exception: If determined by analysis that there is no evidence of hydrocarbon vapors or H<sub>2</sub>S above the roof, the wearing of fresh air equipment may not be required. If fresh air is not required, the area will be continuously monitored for O<sub>2</sub>, LEL and H<sub>2</sub>S.
- A standby equipped with supplied-air or self-contained breathing equipment (i.e. if required), will be stationed at the gauging platform.
- If working within 6 feet of an unprotected roof edge, a properly filled out JSA is to be completed stating the hazard and the mitigation for that hazard.
- Continuous air monitoring with a 4 or 6 way meter may be required, depending on work scope and potential personnel exposure.

## 6.0 CONE ROOF & INTERNAL FLOATING ROOF TANKS

If the following conditions are met, a work permit may be issued:

- No movement into or out of the tank. Water draw, suction and discharge valves (including MOVs), and heaters are to be closed and tagged.
- Mixers must be off.
- LEL in tank vapor space must be below 10%.
- If working within 6 feet of an unprotected roof edge, a properly filled out JSA is to be completed stating the hazard and the mitigation for that hazard.

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- If personnel may be exposed to tank contents, personnel protective equipment must be worn (see R-11-023). Refer to the SDS for additional information (see R-11-019).
- Planking (i.e. minimum 2' x 8' x 3/4") must be used to perform work safely on all cone roof tanks. Exception: These roof planking requirements may be waived with agreement from a Marathon Certified Tank Inspector based on review of the roof condition from tank records and/or inspection.

## 7.0 WORK ON ACTIVE FLOATING ROOF TANKS

Roof entry on "active" tanks (i.e. when the level is dropping) is only allowed in the following situations: during an emergency, when tank cannot be made inactive, or for tank seal gap inspections. However, roof entry is only permitted as a last resort when all other alternatives have been eliminated.

If the following conditions are met, a Safe Work Permit may be issued:

- Cold work and inspection only.
- The unit that is pulling from the tank must be contacted and asked to maintain a steady rate.
- Transfers from other tanks, vessels or pipelines are not allowed.
- Tank gauge is not within three feet of low gauge. A roof permit is not allowed if the tank gauge is within three feet of low gauge.
- No water draining from the tank.
- Supplied-air is required if the tank roof is below 4 feet from the rim of the tank, or as required on the permit.
- A qualified standby must be stationed at the gauging platform, and be equipped with supplied-air (i.e. if required) and a radio to monitor the Operations unit radio frequency.
- Mixers must be off.
- Heaters must be closed and tagged.
- Personnel working on the roof must continuously monitor the air using a 4 or 6 way meter.

## 8.0 TRAINING

All employees shall receive procedure training upon initial hire.

## 9.0 REVIEW AND REVISION HISTORY

Revision #	Preparer	Date	Description
0	Mark Willand	10/17/2021	Reformatted and Numbered per Document Control Policy, R-63-001.
1	Jeff Wood	4/20/2022	Five year line-by-line review. Removed fall protection plan.

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