Manual of Petroleum Measurement Standards Chapter 17.6

Guidelines for Determining the Fullness of Pipelines Between Vessels and Shore Tanks

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Guidelines for Determining the Fullness of Pipelines Between Vessels and Shore Tanks

1 Scope

This document describes procedures for determining or confirming the fill condition of pipeline systems used for the transfer of liquid cargoes before and/or after the liquid is loaded onto or discharged from marine vessels. It includes descriptions of methods and procedures that apply to crude oil and petroleum products.

While this document includes descriptions of common line fill verification methods, it does not recommend any particular method. The responsibility for selecting a method appropriate for a given terminal, and documenting its effectiveness, rests with those responsible for operating the terminal where it is applied.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API *MPMS* Chapter 3.1A, *Standard Practice for Manual Gauging of Petroleum and Petroleum Products*

API *MPMS* Chapter 3.1B, *Standard Practice for Level Measurement of Liquid Hydrocarbons in Stationary Tanks by Automatic Tank Gauging*

API *MPMS* Chapter 7, *Temperature Determination*

API MPMS Chapter 17.2, *Measurement of Cargos On Board Tank Vessels*

API MPMS Chapter 17.11, *Measurement and Sampling of Cargoes On Board Tank Vessels Using Closed/Restricted Equipment*

3 Terms and Definitions

For the purposes of this document, the following definitions apply.

3.1
agreed tolerance
Before executing the line displacement method, all authorized parties should agree on the amount of difference that will be accepted when comparing measurements taken before and after the procedure. This agreement may be in terms of volume rather than level measurement. The term agreed tolerance refers to this agreed-upon span of acceptable difference.

3.2
high-point bleed-valve method
Sight-glass/mechanical sight verification method
Checking for the presence of liquid at high-point valves or sight glasses in the designated pipeline system between the shore tank and the vessel berth.

3.3
internal circulation method
Transferring a measured volume of liquid from one shore tank into the same or another shore tank through the pipeline system designated for the transfer of cargo to or from a marine vessel.