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Guidelines for Determining the Fullness of Pipelines Between Marine Vessels and Shore Facilities

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Guidelines for Determining the Fullness of Pipelines Between Marine Vessels and Shore Facilities

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Guidelines for Determining the Fullness of Pipelines between Marine Vessels and Shore Facilities

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. While this standard primarily addresses pipelines between vessels and marine terminals, it can also be applied to pipelines involved in shore-to-shore transfers. 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 7.3, *Fixed Automatic Tank Temperature Systems*

EI HM 4, *Manual level measurement for hydrocarbon liquids*

3 Terms and Definitions

For the purposes of this document, the following definitions apply. Terms of more general use may be found in the API *MPMS* Chapter 1 Online Terms and Definitions Database.

3.1
agreed tolerance
Before executing the line displacement method, all parties should agree on the amount of difference that will be accepted when comparing measurements taken before and after the procedure. This agreement will be in terms of volume, expressed as a volume, percentage, or level measurement.

3.2
line fullness
The liquid fill condition of transfer lines between two measuring points (e.g., shore tank and marine vessel).

3.3
line fullness verification
The activity of verifying the fill condition of the transfer lines between two measuring points (e.g., shore tank and marine vessel) before and after a transfer.