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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
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Contents

	Page
1 Scope	1
2 Normative References	1
3 Terms and Definitions	1
4 Health and Safety Precautions	2
4.1 General.....	2
4.2 Physical Characteristics and Fire Considerations	2
5 Significance and Use	2
5.1 General.....	2
5.2 Considerations for Selecting a Method	3
6 Procedures	3
6.1 General Procedures	3
6.2 Loading or Discharging.....	3
7 Procedures and Application	4
7.1 Procedures for High-point Bleed-valve Method (or Sight-glass, Mechanical Sight Verification Method).....	4
7.2 Procedure for Internal Circulation Method.....	5
7.3 Procedure for Line Displacement Method.....	6
7.4 Procedures for Line Clearing Methods.....	7
7.5 Procedure for Line Press Method (or Line Pack Method).....	8
8 Procedure for Partially Empty/Full Line Condition	8
Annex A (informative) Procedure for Line Displacement Method Not Involving Marine Vessels	9
Annex B (informative) Example of Procedure for Pig Lines	10
Bibliography	10

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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.