

Manual of Petroleum Measurement Standards Chapter 23.2

Reconciliation of Liquid Tank Car(s) Quantities

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Introduction

This standard provides guidance regarding various tank car movement reconciliation methods that will aid in measurement processes and inventory control programs for petroleum and petroleum products. It will be up to the user(s) of this standard to decide and determine the most appropriate methodology that will allow the most accurate volume reconciliation for its system.

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Reconciliation of Liquid Tank Car(s) Quantities

1 Scope

1.1 General

Provide methodologies and processes to monitor liquid tank car movements' quantity loss/gain (L/G) ratios, level, and/or quality differences for tank car measurement systems. This document does not establish an industry standard for L/G ratios or level, but under normal operating conditions the standard will assist the user to identify L/G of any tank car system. It will assist to determine:

- ratio or level deviations,
- patterns or trends,
- liquid quality.

This document will also make available operational and statistically based tools to:

- identify when a system exhibits a deviation from its normal operating conditions,
- guidelines for identifying the causes of the deviation from its normal operating perimeters.

1.2 Field of Application

The primary application of this publication is in custody transfer measurement systems in which there is provision for measuring all liquids that enter the system and exit the system, as well as liquid inventory within the system.

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 amendment) applies.

API *Manual of Petroleum Measurement Standards (MPMS) Chapter 2, Tank Calibration* (all relevant chapters)

API *Manual of Petroleum Measurement Standards (MPMS) Chapter 3.1A, Standard Practice for the Manual Gauging of Petroleum and Petroleum Products*

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

API *Manual of Petroleum Measurement Standards (MPMS) Chapter 3.2, Standard Practice for Gauging Petroleum and Petroleum Products in Tank Cars*

API *Manual of Petroleum Measurement Standards (MPMS) Chapter 4.5, Master Meter Provers*

API *Manual of Petroleum Measurement Standards (MPMS) Chapter 4.8, Operation of Proving Systems*

API *Manual of Petroleum Measurement Standards (MPMS) Chapter 4.9.2, Methods of Calibration for Displacement and Volumetric Tank Provers—Part 2—Determination of the Volume of Displacement and Tank Provers by the Waterdraw Method of Calibration*

API *Manual of Petroleum Measurement Standards (MPMS) Chapter 5, Metering* (all relevant chapters)