Manual of Petroleum Measurement Standards Chapter 23.2

Reconciliation of Liquid Tank Car(s) Quantities

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Contents

Page

1 Scope . . . 1
1.1 General . . . 1
1.2 Field of Application . . . 1

2 Normative References . . . 1

3 Terms and Definitions . . . 3

4 Measurement Data Analysis . . . 4
4.1 General . . . 4
4.2 Loss/Gain (L/G) Analysis . . . 4
4.3 Control Charts . . . 5
4.4 Trending Charts . . . 11
4.5 Cross Plots . . . 12
4.6 Cumulative Charts . . . 13
4.7 Two Types of Cumulative Percent . . . 15

5 Troubleshooting . . . 16
5.1 General . . . 16
5.2 The Troubleshooting Process . . . 16
5.3 Inaccuracies and Uncertainties . . . 17
5.4 Meters . . . 18
5.5 Meter Proving . . . 18
5.6 Tanks . . . 19
5.7 Scales . . . 21
5.8 Tank Car Gauging . . . 21
5.9 Tank Truck Gauging . . . 22
5.10 Heel Measurement . . . 23
5.11 Rail Transloading Measurement . . . 23
5.12 Quality Determination . . . 24
5.13 Line Condition . . . 24
5.14 System Controls . . . 24
5.15 Explainable L/G . . . 27
5.16 Marine Measurements . . . 29

6 Reconciliation . . . 29

7 Calculating Statistical Uncertainties . . . 30

Annex A (informative) Statistical Calculations . . . 32

Annex B (informative) Troubleshooting Guide for Measurement Operations . . . 37

Bibliography . . . 39

Figures
1 Sample Control Chart . . . 6
2 Two Years of Data for Control Limits . . . 7
3 Control Chart for the Following Year . . . 7
4 Control Chart with Three Patterns . . . 8
5 Control Chart with Cyclic Patterns . . . 9
6 Control Chart with a Change in the Process . . . 9
7 Moving Range Chart . . . 10

Contents

Page

8 Trending Control Chart 11
9 Simultaneous Variations in Meter Factor and Flow Rate 12
10 Cross Plot of Meter Factor vs Flow Rate 12
11 Cumulative Plots 14
12 Cumulative GSV and NSV. 14
13 System with a Leak 15
14 Types of Cumulative Percent 16
15 Initial Meter Proving 19
16 Meter Proving Continued 19
17 Points in Which Gains or Losses Can Occur. 25
A.1 Correlation Between Two Data Sets 34

Tables
1 Example of Cumulative Sum 15
2 Example of Moving Sum. 16
A.1 Sample Calculation of Mean and Standard Deviation. 32
A.2 Sample Calculation of Estimated Standard Deviation 33
A.3 Example of Calculation of a Correlation Coefficient 34
A.4 Least Squares Method Calculations 36

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.

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 amendments) 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, S*tandard 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)