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Vessel Experience Factor (VEF)

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Foreword

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Introduction

There are usually differences between the quantity of a cargo measured in a calibrated shore tank or by a custody transfer meter, and the same cargo determined by vessel tank measurements.

For a given vessel, the use of quantity data from many voyages provides an indication of vessel measurement differences as a numerical ratio. This ratio can also include other load and discharge factors. For each voyage, a vessel load ratio (VLR) and vessel discharge ratio (VDR) can be calculated. The mean of the qualifying VLRs or the VDRs over several voyages is called the VEF (VEFL and VEFD for load and discharge, respectively.)

The key aim of this document is to provide a single unambiguous figure for VEFL or VEFD and to remove the possibility of arbitrary inclusion or exclusion of data.

This document was developed by a joint American Petroleum Institute and Energy Institute Hydrocarbon Management Working Group.

Vessel Experience Factor (VEF)

1 Scope

This standard provides a recommended practice for the calculation and application of a vessel experience factor (VEF). This standard provides guidelines for data compilation, data maintenance, data validation, and recommendations on the appropriate use of a VEF involving marine vessels.

It also provides instruction for parcel tankers, compartmental VEFs, and vessel-to-vessel transfers. The methods are applicable to liquid bulk cargoes including crude oil, petroleum products, chemicals, and liquid petroleum gases.

2 Normative References

2.1 General

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.

2.2 API/EI Documents

API *MPMS*, Chapter 17.5/EI HM 64, *Guidelines for Cargo Analysis and Reconciliation*

API *MPMS*, Chapter 17.12/HM 51, *Procedures for Bulk Liquid Chemical Cargo Inspections*

2.3 API Documents

API *MPMS*, Chapter 17.1, *Marine Measurement—Guidelines for Marine Cargo Inspection*

API *MPMS*, Chapter 17.2, *Measurement of Cargoes On-board Tank Vessels*

API *MPMS*, Chapter 17.4, *Method for the Quantification of Small Volume on Marine Vessels (OBQ/ROB)*

2.4 EI Documents

HM 28 [1], *Procedures for Oil Crude Oil Cargo Inspections Section 1—Crude Oil*

HM 29, *Procedures for Petroleum Product Cargo Inspections*

HM 30, *Procedures for Liquefied Petroleum Gas (LPG) Cargo Inspections*

HM 68, *Procedures for Bulk Liquid Fatty Acid Methyl Esters (FAME) and Blended Biodiesel Cargo Inspections*

[1] Energy Institute, formerly the Institute of Petroleum, 61 New Cavendish Street, London W1G 7AR, UK, www.energyinst.org.uk.